ARMCO

IN
PICTURE
AND
FACT

LABOR IS DISCOVERED TO BE THE GRAND CONQUERER,
ENRICHING AND BUILDING UP NATIONS MORE SURELY
THAN THE PROUDEST BATTLES.

WM. ELLERY CHANNING

THE AMERICAN ROLLING MILL CO.
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CENTRAL WORKS......................Middletown, Ohio
BLAST FURNACES.........................Columbus, Ohio
ZANESVILLE WORKS......................Zanesville, Ohio
COAL MINES............................Marting, W. Va.
ORE MINES.........................Lake Superior District

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CHICAGO................................Peoples Gas Bldg.
PHILADELPHIA.............................Widener Bldg.
DETROIT...............................Dime Bank Bldg.
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Balcarce 326-Buenos Aires

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Armco Iron Australian Agency
387 George St., Sydney, N. S. W.

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The American Rolling Mill Co.
Guinle Bldg., Caixa Postale 19
Rio de Janeiro

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4B Pekin Road Shanghai

CUBA
American Rolling Mill Co.—Havana

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Morden House, Dartmouth St.
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Honolulu Iron Works Co.
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New York Office, Woolworth
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Hammond Sheet Metal Co.,
  St. Louis, Mo.

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  Fargo & Egmont Sts.,
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Zion Co-op. Merc. Inst.,
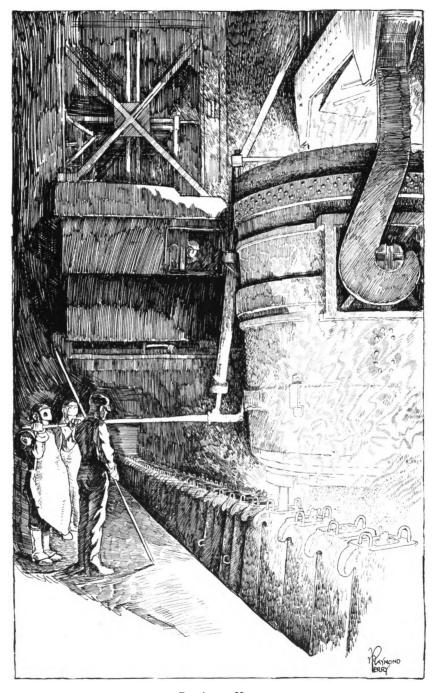 Salt Lake City, Utah

McClary Mfg. Co.,
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Moncrief Lenoir Mfg. Co.,
  Houston, Texas

Kahl Holt Co.,
  Baltimore, Md.

Phillips & Buttorff Mfg. Co.,
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Orleans Steel Products Co., Inc.,
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Pouring a Heat

ARMCO
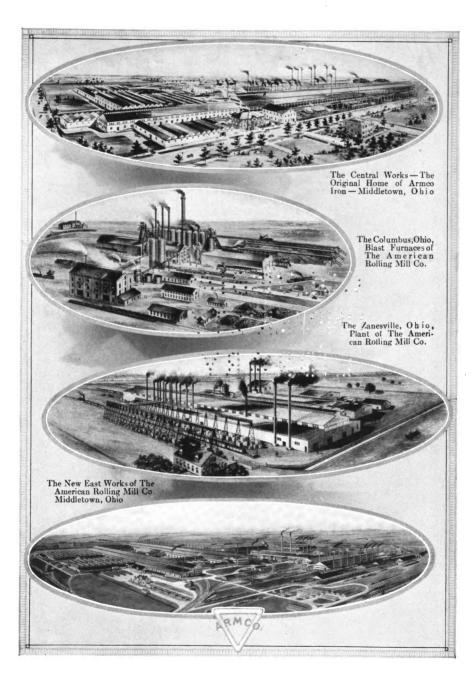
in Pictures and Fact

Including a comprehensive Sheet Metal reference

The **AMERICAN ROLLING MILL CO.**
MIDDLETOWN, OHIO

The Central Works — The
Original Home of Armco
Iron — Middletown, Ohio

The Columbus, Ohio,
Blast Furnaces of
The American
Rolling Mill Co.

The Zanesville, Ohio,
Plant of The Ameri-
can Rolling Mill Co.

The New East Works of The
American Rolling Mill Co,
Middletown, Ohio

A STUDY of world history shows that the "Iron Age" is not of the present, or past few centuries, but that it has been known from the beginning of recorded times.

Tubal Cain was but seven generations removed from Adam, yet we read of him as "an instructor of every artificer in brass and iron".

According to records, Egypt was the first civilized nation of the world, and we learn from Herodotus that in building that great wonder of the world "The Pyramids" iron tools were used.

Early methods of producing iron and steel were crude and laborious. Improvements in methods of manufacture were made slowly. Early improvements in reduction of ore into metal were principally the Catalan Forge and Knobbling Fire, later ones, the Blast Furnace and Puddling Process.
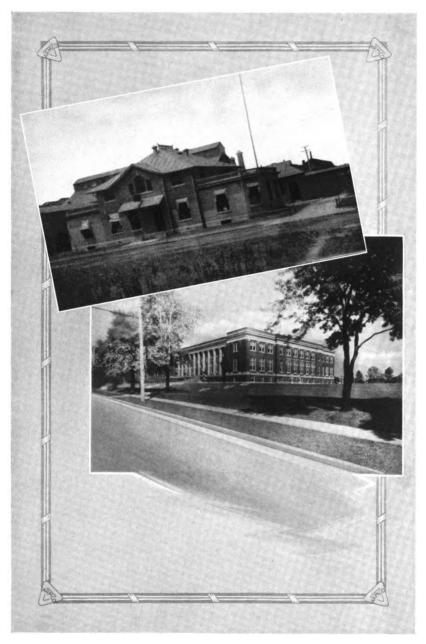
In the "Eighteenth Century" such progress was made that a definite commercial value was attached to the industry. At this stage the process of rolling sheets was invented and used in England. The motive power was a horse and a tread mill. Previous to this time the manufacture of sheets was accomplished through hammering wrought iron bars, after heating in a smith's forge.

To modern times and ingenuity however, was left the task of developing the "Iron and Steel Industry" to the place where it is the leading industry of the world. The Inventions which brought about this condition were chifley the Crucible, Bessemer, and the Siemens-Martin or Open Hearth Processes.

According to records the first sheet rolling mill in America was built at Pittsburgh in 1818.

Since that time America has made such wonderful progress that it not only leads the world in the manufacture of iron and steel sheets, but it leads the world in the production of all forms of iron and steel.

The history of the American Rolling Mill Company is, itself, one of the romances in this great modern industrial achievement.

The original General Office building of the American Rolling Mill Company, erected 1900; is now used by the Training Department.

The new General Office building is most complete in all details pertaining to the health, comfort, and entertainment of employees. It contains a large auditorium, a cafeteria, barber shop, club and rest rooms, electric and shower baths, game room, athletic headquarters, and a physician's clinic.

Operations began in 1900 with one 30-ton Open Hearth Furnace, a 20 inch Bar Mill, four Sheet Mills, a Galvanizing Plant, and a factory for making roofing and other sheet metal products. It was the first plant in America to gather the Open Hearth, the Bar Mill, the Rolling Mills and the Galvanizing under one roof.

The company's specialty at that time was high grade steel sheets, Black and Galvanized, and this commanded a price slightly higher than the market for a standard product.

Expansion began at an early date and it was but a short time before two 50-ton furnaces were in operation and the plant began to take on successive additions.

In 1905, the plant of the Muskingum Valley Steel Co., located at Zanesville, Ohio, was purchased, consisting of 8 sheet mills and annealing equipment. This addition practically doubled the sheet capacity of Armco.

By 1906 several important specialties, for which the company was enjoying a constantly increasing demand, were being produced and others were in the course of development, foremost among which was a material to better resist the influences of corrosion. Both Bessemer and Open Hearth steel sheets had proven to be very short lived where the requirements of service were at all severe and something better was demanded.

The investigation of this important subject, and the development work which followed, resulted in the production of what is now known as "Armco" Ingot Iron, the purest iron ever made into sheets and plates on a commercial basis.

By 1910 the demand for "Armco" Ingot Iron and for all of the company's special products had so increased that it was found necessary to again enlarge its manufacturing facilities.

The result was the building of the East Side Works of the American Rolling Mill Company. This addition consisted of four 65-ton Open Hearth Furnaces, modern Blooming and Bar Mills, eight Sheet Mills and two Jobbing Mills, together with Annealing, Galvanizing, and Finishing Plants of sufficient capacity to take care of the output of the furnaces.

The advent of the United States of America into the Great World War increased the demand for tonnage in iron and steel and again it was found necessary to make further additions.

To insure a reliable supply of pigiron, The Columbus Iron & Steel Co., consisting of two blast furnaces located at Columbus, Ohio, was purchased and made a part of the Armco organization.
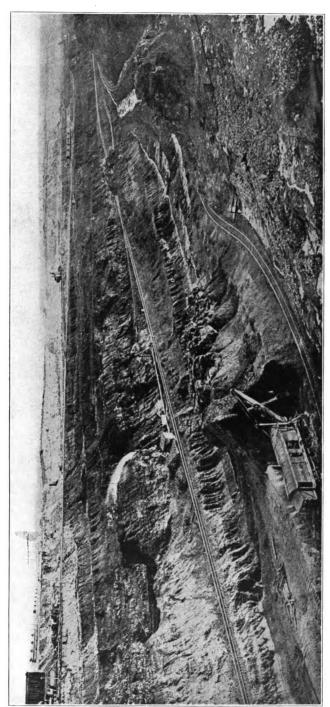
This was later followed by the addition of four 85-ton Open Hearth furnaces, two Sheet Mills, and one Jobbing Mill, together with a Forging Plant to produce war materials.

At the end of the war the Forge Plant was discontinued, its purpose having been accomplished, and eight sheet mills with the necessary Annealing and Finishing capacity were added to the East Works, and four sheet mills were added to the Zanesville Plant.

After twenty years of progress and uninterrupted operation, The American Rolling Mill Company enjoys an enviable reputation for "Quality" of products and "Service" to customers. The present manufacturing resources of Armco comprise the following:
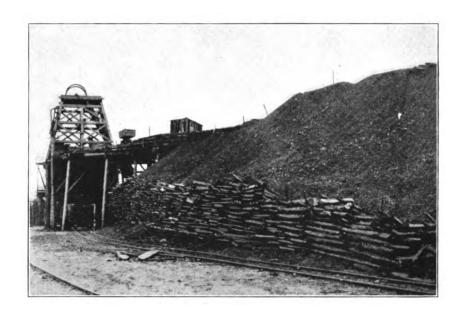
Enterprises	Yearly Capacity in Tons
2 Blast Furnaces	350,000
12 Open Hearth Furnaces	120,000
Blooming and Bar Mills	100,000
34 Sheet and 3 Jobbing Mills	300,000

OPEN PIT IRON ORE MINE

Approximately 85% of the iron ore found in America comes from the Lake Superior district. In quality it is the finest found anywhere in the United States or in the world.

THE FRANTZ IRON ORE MINE

The ore properties in which The American Rolling Mill Company is interested are located in the Mesabi Range and produce a quality of ore unsurpassed.   It is here that "Armco" Ingot Iron, and all other "Armco" specialty products find their original source.

The general classifications of iron ore are: red hematite, brown hematite or limonite, magnetite, and carbonate.   The amounts used in America range in the order given.
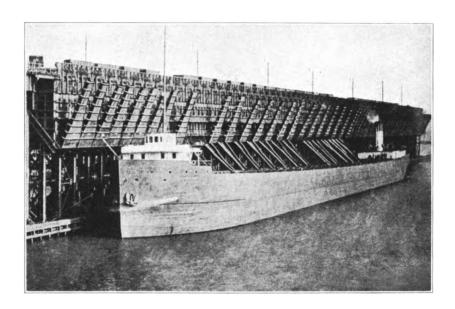
All iron ores fall under two general commercial classifications, depending upon the grade of iron to be made.   These classifications being familiar to the trade as Bessemer and Non-Bessemer.   The former is generally ore of such iron and phosphorus content that the resulting pig iron will not contain more than 1/10 of 1% of phosphorus. Non-Bessemer is ore which does not meet this requirement and is used in the production of basic, foundry, and malleable grades of pig iron.

LOADING ORE AT MINES
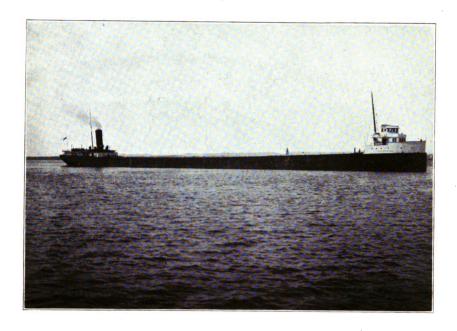
Nature has kindly deposited a great portion of ore close to the surface of the earth, thus making it easily and inexpensively accessible.

In the open pit or strip method the ore is recovered by stripping the surface or cover to the ore body.   The ore is then mined by means of steam shovels and loaded into railroad cars for transit to dock or direct rail to furnaces.
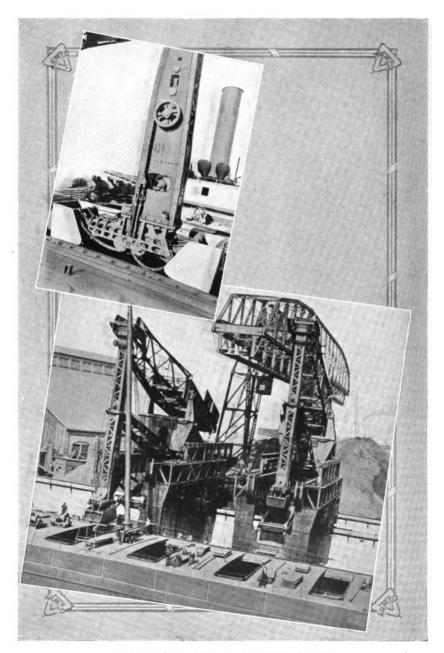
LOADING ORE AT DOCKS

The ore docks extend far out into the lake, and carry four railway tracks.   The ore cars are placed over openings in the dock and the ore is dumped into large ore pockets.   Attached to these pockets are gravity chutes, for loading into the vessel.   The ore boats, which are practically one big hull compartment, with hatches spaced in accordance with the chute centers, run alongside the docks for loading. The dock chutes are lowered over the hatches and the ore flows into the ship's hull without the assistance of bucket or crane.
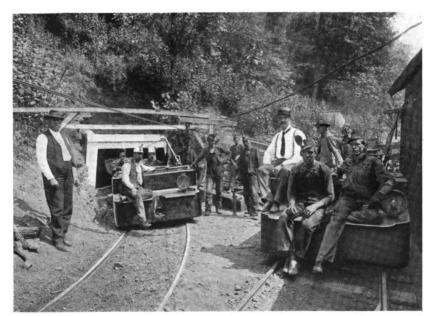
ORE BOAT IN TRANSIT

In order to insure constant and prompt delivery of ore, a fleet of ore boats is owned in part by the American Rolling Mill Company. The advantage of such an arrangement can be appreciated by manufacturers who have to depend on outside companies for the transportation of raw materials. These boats are of 10,000 ton capacity and modern in every respect. The average number of round trips each season is twenty-four. They are tied up during the winter because of the ice on the Great Lakes.
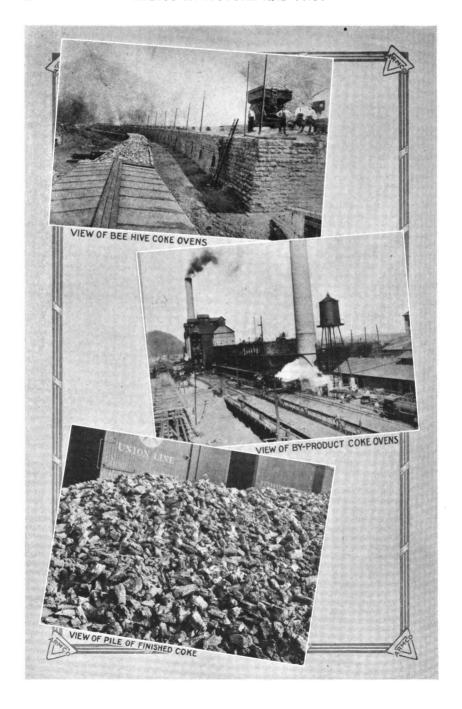
UNLOADING ORE FROM THE BOATS
After docking at their destination the ore boats are unloaded by means of large electrically driven traveling cranes.

The mammoth hands of the crane descend into the hatches of the ship bringing forth 15 tons of iron ore at each grasp. Under such modern methods of handling the piles of red iron ore grow rapidly at the ore terminals.

COAL MINES

To convert the iron ore and other raw materials necessary in the manufacture of steel to the finished product, a large amount of coal is required for fuel. Twenty or more car loads of coal are consumed at the Armco plants each day. To insure an adequate and continuous supply, Armco has its own coal mines at Marting, W. Va. and also in Kentucky.

VIEW OF BEE-HIVE COKE OVENS

VIEW OF BY-PRODUCT COKE OVENS

VIEW OF PILE OF FINISHED COKE

COKE

Coke is the chief fuel used to reduce the iron ore to pig iron.

At present coke is made by two methods, the Beehive method and the By-product method. The resulting products are termed respectively Beehive Coke and Retort or By-product Coke.

Beehive ovens, as shown in illustration on the preceding page, are from $10\frac{1}{2}$ to 12 feet in diameter and shaped like a Beehive. Each oven has two openings and each of these serves a two-fold purpose. The one in the side is used to regulate the draft and is the one from which the finished product is taken. The one in the top is used to charge the oven and also to permit the gases and smoke to escape.

The time consumed for burning the charge, or coking the coal, is 48 to 72 hours, depending upon the nature of the charge.

When the coking is completed, water is sprayed over the glowing charge to extinguish the fire. If this is not done at the right time, considerable loss from overburning will result.

When the coke has cooled sufficiently it is drawn from the oven with large hooks and the fire entirely extinguished after which operation it is ready for use.

Ammonium sulphate, benzol, tar, toluol, etc., are recovered from the volatile matter which is freed from the coke during the coking period in the By-product process. This is done through a maze of pipes, valves and intricate machinery.

BLAST FURNACES
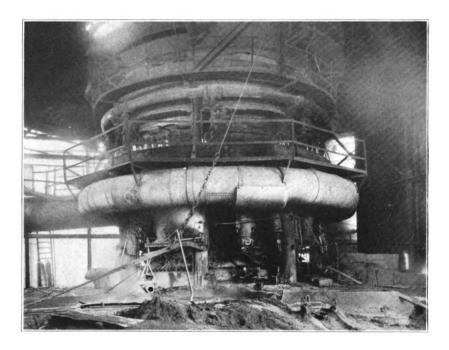
The first step in the conversion of iron ore into "pig" iron—is the blast furnace.

Iron ore, limestone, and coke in measured quantities are conveyed up the inclines to the top of the furnace by means of a "skip-hoist" and charged into the furnaces through the top.

Extraordinary care is necessary in making the charge in even layers so that the ore will melt and descend in the furnace evenly and steadily.   If the charge is not properly made it may cake into a dome shaped mass near the top of the furnace and as the charge near the bottom becomes molten, the upper part will weaken and fall. This results in the loss of part of the charge and frequently causes considerable damage.

As the charge melts, the molten material collects in the bottom of the furnace known, as the hearth.   Here the iron and slag separate, owing to their different specific gravities.   The slag, being the lighter, floats on top.

When a sufficient amount of metal has been deposited in the hearth to make a cast, the tap hole is opened and the molten iron flows through a sand trench into a ladle.   From the ladle the molten iron is poured into pig casting machines.
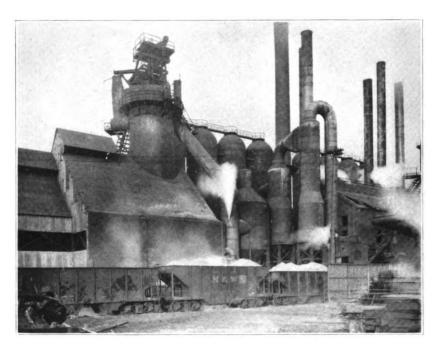
THE BLAST FURNACE

The lower portion of the blast furnace is known as the hearth. It is in this portion of the furnace that the enormous volume of super-heated air is blown, resulting in the combustion of incandescent coke. The large pipe encircling the furnace 10 ft. above the ground, is known as the "bustle" pipe from which smaller pipes (tuyeres) lead into the furnace. A 500 ton furnace will require a blast of approximately 45,000 cubic feet of air per minute at a pressure of 14 to 20 lbs.

A full charge of raw material is kept in the furnace. As fast as the stock melts and descends more material is charged.

As the gases ascend and the contents of the furnace descend, the hot gases pass through the comparatively cold materials in the furnace. This pre-heating results in higher hearth temperature and economy in coke consumption.

BLAST FURNACE HOT AIR STOVES

This picture shows the arrangement of the hot blast stoves and furnace proper. The four vertical cylinders at the right are the stoves and the largest cylindrical structure at the left is the furnace. Only one stove is used at a time in connection with the furnace. By actual weight more hot air is used in the manufacture of pig iron than iron ore. All the air used, comes from the blowing engines and passes through one of the pre-heated stoves before being sent to the furnace.

The hot air does not lose all of its heat in the furnace. After it has served its purpose it passes through the top of the furnace and then back to the idle stoves via the down-take pipe. In this way three stoves are kept warmed up when not in use.
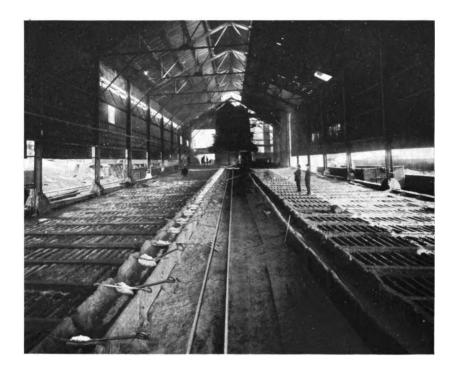
CASTING PIG IRON

A "pig" casting machine consists of traveling molds, of the endless chain type, which move up a long incline.

The molten metal is poured into these molds from the ladle as they travel upward. Approximately twelve or fifteen feet above the pouring platform a water spray begins to play over the molds and is continued until they reach the top, by which time the metal is cool.

During the chilling process the metal shrinks from the molds and as the chain of molds makes the turn to come back, the "pigs" of iron fall into railway cars placed under the incline. From here the pig iron is transported to the open hearth stock yard.

THE OLD SAND CAST METHOD
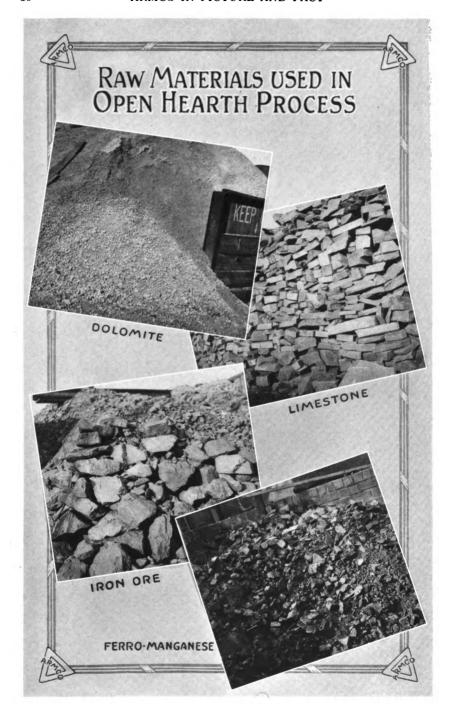
The old sand cast method is still used to a certain extent, but abandoned in many plants for economical reasons.   The iron produced by this method is not as satisfactory as the machine cast pig iron for basic open hearth practice because of the adhering sand. In the plants using the method of casting in sand the pigs have to be broken out and carried away by hand labor.

STOCK YARDS

A stock pile of pig iron is one of the familiar sights around a steel plant.

Large electric magnets are used to unload the iron from the cars to the pile and afterwards reload it into charging pans for the open hearth furnaces.

RAW MATERIALS USED IN
OPEN HEARTH PROCESS

DOLOMITE

LIMESTONE

IRON ORE

FERRO-MANGANESE

RAW MATERIALS USED IN OPEN HEARTH
PROCESS
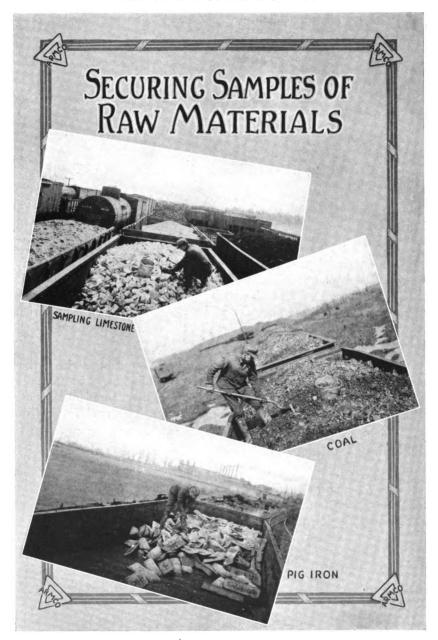
Dolomite is a highly refractory material used as a lining for the hearth, which is the part of the furnace that contains the bath of molten metal.

Limestone plays an important part as a flux in the furnace charge. It is charged first and as the charge becomes molten it rises to the surface of the bath, being of lighter specific gravity, carrying a great portion of the impurities with it. After rising to the surface it acts as a protective blanket against the oxidizing influence of the flame passing over the bath.

Iron ore is used in the bath principally to oxidize the carbon which then passes off as gas and into the slag blanket. Iron ore also carries to the slag blanket a portion of phosphorus and manganese, which action is highly desirable in producing "Armco" Ingot Iron.

Ferro-Manganese used in the manufacture of steel is added to the bath in the furnace and to the molten metal in the ladle. It acts as a cleanser and increases the tensile strength of the steel.

However, in producing "Armco" Ingot Iron, this practice is not followed as manganese is one of the impurities which invite corrosion. As the main endeavor of "Armco" Ingot Iron is to "resist rust" the small difference in tensile strength is sacrificed in order to gain purity.

SECURING SAMPLES OF
RAW MATERIALS

SAMPLING LIMESTONE

COAL

PIG IRON

SECURING SAMPLES OF RAW MATERIALS

Samples are taken of incoming raw materials while the cars are still in the care
of the railroad companies.   If the analyses of these samples are not satisfactory,
the materials are promptly rejected or diverted to the manufacture of grades other
than "ARMCO" Ingot Iron.

MELTING SCRAP STOCK

In the basic open hearth process the charge for a furnace consists principally of pig iron, limestone and scrap.

For the manufacture of "Armco" Ingot Iron, all of the scrap used is inspected and analyzed to assure a low content of sulphur, phosphorus, carbon, copper and other impurities.
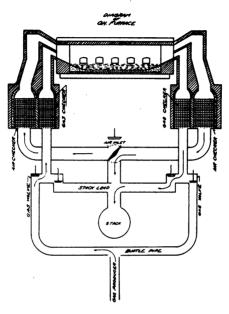
The scrap is carefully inspected as it is loaded into the charging pans, in order that no inferior material reaches the open hearth furnaces.   Good raw materials make good finished products.

TRAIN OF CHARGING PANS

The raw materials are hauled from the stock yards to the open hearth charging floor by means of a train of charging "buggies".

Each train-load consists of the raw materials in proportionate amounts necessary to complete the charging of one furnace.   All materials are carefully weighed in the stock yards to insure the correct proportions.

This diagram of an Open Hearth furnace illustrates the method of fuel control.

That part of the diagram from the gas producer to the gas and air checkers is as looking down on the connection. The part showing gas and air checkers and furnace proper, is a vertical cross section.

It will be noted that the gas and air do not mix until they reach their respective ports at the top of the furnace, where combustion takes place, just before the flame passes over the charge.

The arrow direction shows gas coming from the producer and air from the inlet passing through the checkers on one side and meeting at the port in the top of the furnace at one side.

The heat units then pass over the hearth, out through the ports in opposite side of the furnace and through the opposite checkers to the stack.

The above action is reversed at regular intervals, in order to keep all checkers heated to a high degree. When action is reversed, arrow direction on sketch would be opposite to that shown.

OPEN HEARTH CHARGING FLOOR

A general view of the charging side of a battery of modern open hearth furnaces.   The ones shown are from 75 to 100 tons capacity.

In the right foreground can be seen tools used in working the molten bath.
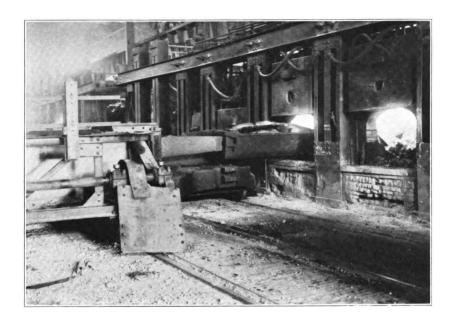
A large quantity of dolomite, used for lining the furnaces, is shown in the center foreground.

An electric charging machine may be seen charging the third furnace from the right.

Each door of these furnaces is water cooled and has a peep hole through which the progress of the heat is carefully watched.   They are manipulated by means of hydraulic and electric power.

The fuel normally used in the furnace is artificial gas, which is made from coal by gas producers connected to the open hearth building.

In case of coal strikes, transportation difficulties, etc., temporarily halting shipments of gas coal at times, "Armco" furnaces are so equipped that situations of this character may be met by reverting to the use of oil as a fuel.

THE CHARGING MACHINE

The charging peel of one of the electric charging machines, carries the loaded charging pan into the open hearth furnace.

The peel is set into a groove in the end of charging pan by operator and locked. The pan is then lifted from its place, carried into the furnace and turned over, thus dumping the load.

The pan is brought out empty and set down on the buggy. Another pan is picked up and emptied into the furnace and so on until the charge has been completed.

The charging machines are mounted on parallel tracks and are able to move the trains of charging pans the full length of open hearth building unassisted.

TAKING A TEST

To insure quality of "Armco" products, tests are taken from the furnace before it is ready for tapping. These tests are taken to the laboratory and analyzed. If the analysis is unfavorable, the metal is kept in the furnace until a favorable analysis is obtained.

Additional tests are taken from the ladle and at different stages, when the metal is being teemed into the ingot molds.

"Armco" Ingot Iron must not contain in the aggregate more than .16% of the following impurities: Silicon, Sulphur, Phosphorus, Manganese, Carbon, Copper, and the gases, Oxygen, Hydrogen and Nitrogen.

Any heat containing a total amount of impurities greater than .16% is rejected by the chemical laboratory, thus insuring the buyer Ingot Iron of the highest quality.
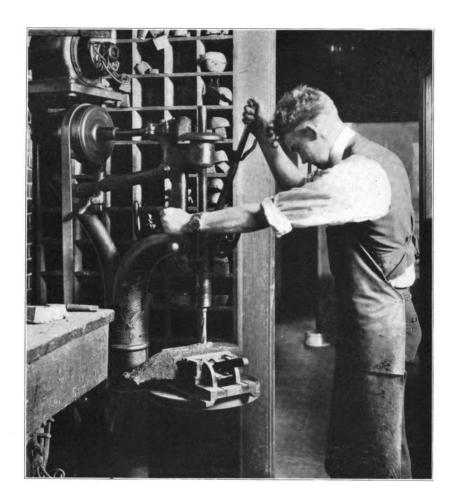
READING THE FRACTURE

Carbon, while an extremely undesirable element in pure iron, is necessary in steel to give the metal certain physical properties.

Foremen in charge of open hearth furnaces have, through experience, learned to read carbon, approximately, by what is known as the fracture test.   The melter examines a fractured test-piece to determine how the molten bath must be treated in its further progress.

The test consists of taking a small ladle full of metal from the molten bath and pouring it into a mold.   This little casting is then quickly cooled and broken with a sledge hammer and by looking at the grain of the fracture an experienced man can tell the approximate carbon content.

TAKING DRILLINGS FOR ANALYSIS
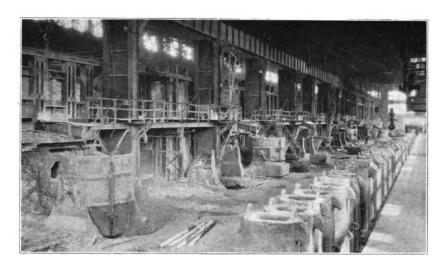
The first operation in the control laboratory on test pieces sub-
mitted by the Open Hearth Department is drilling to obtain samples.
It is from these drillings that determinations are made.   After the
analysis has been made the drillings are submitted to main laboratory
or Research Department for a check on control laboratory's analysis.
The illustration shows the Chemist sampling pig iron.

THE CONTROL LABORATORY

A crew of chemists is constantly on hand to run tests on "Armco" Ingot Iron. They are to be found in the control laboratory building, which is located in close proximity to the Open Hearth department.

Other divisions of the laboratory consist of balance, carbon test, gas test and raw materials rooms. A larger number of chemists are required for this work than are ordinarily employed in laboratories of a like character, because of the accuracy and the rapidity with which the determinations must be made in the control of "Armco" products.

TAP SIDE OF FURNACES

A view of the tapping side of a battery of modern open hearth furnaces, also includes a train of ingot molds lined up along the pouring platform into which the metal is "teemed" from the ladles.
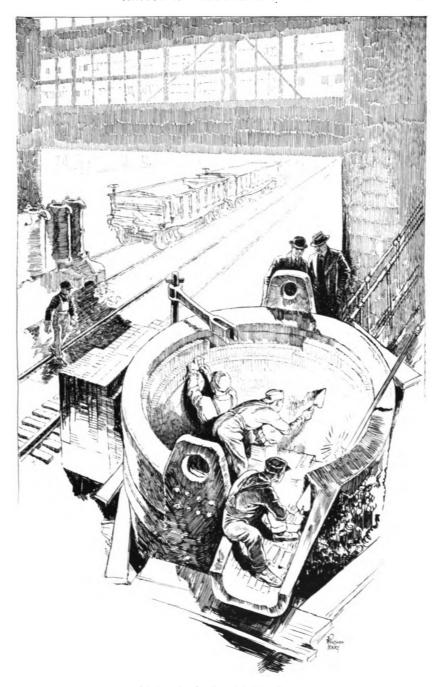
Midway of each furnace at about the level of the platform may be seen a trough or "runner" leading from furnace to the ladle. The "runner" being portable for cleaning purposes, is laid in position under the "tap-hole" and temporarily cemented to the furnace with clay. It is down this "runner" that the metal flows into the ladle.

At the furnace end of the "runner" is the "tap-hole" which is plugged with dolomite and clay when the furnace is being charged.
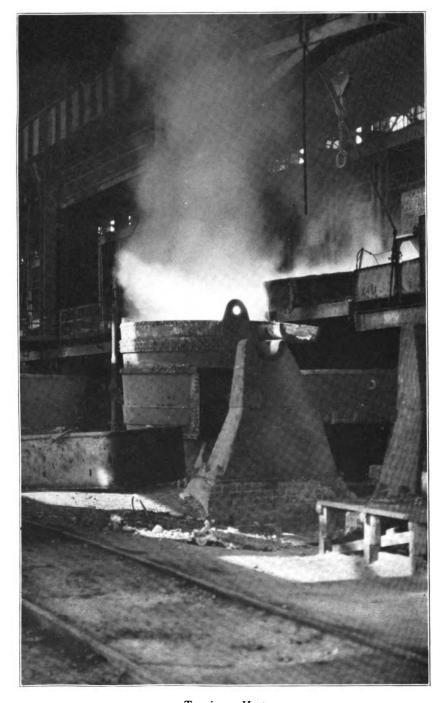
The ladles holding from 75 to 100 tons of metal, are carried into position under the "runner" by the huge overhead cranes.

Both the ladles and runners are lined with fire brick and during the melting of the bath are kept preheated with gas flames, to prevent the accumulation of moisture and too great a reaction when the molten metal strikes their surfaces.

The pouring of metal from ladle into molds is accomplished through a "stopper-valve" on the inside of the ladle, operated from the outside like a pump handle.

Lining the Ladle with Fire Brick

Tapping a Heat

TAPPING A HEAT

The spectacular moment in the manufacture of iron and steel is when the plug is torn away from the tap hole and a white, livid stream of metal rushes from its molten bath out into the open and down the "runner" to ladle. The great flare of light and shower of sparks is a magnificent and wonderful sight.

Enough raw materials have been "charged" to take care of filling the ladle with good metal and at the same time run off the slag and impurities which, on account of their lighter specific gravities rise to the surface.

As the ladle fills to overflowing, the impurities and slag run through the trough-like channel in top of ladle, into a cone-shaped receptacle at the right of ladle, known as the slag thimble.

This thimble of slag is afterward carried away and dumped, as no commercial use for basic open hearth slag has been developed, at least on a large enough scale to use the tonnage which is produced.
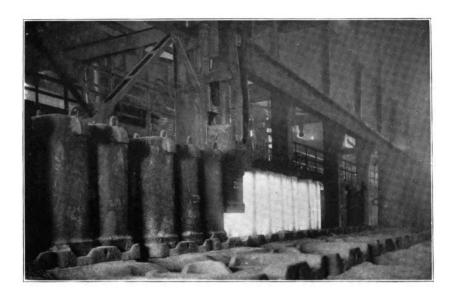
TEEMING METAL INTO
INGOT MOLDS

After all the metal has been drawn from the furnace a huge crane picks up the ladle and carries it over to the train of "ingot molds", where the molten metal is "teemed" into the molds.

This is accomplished by operating the "stopper-valve" which permits the metal to flow through a nozzle in the bottom of ladle.

A heat usually fills a train of 35 to 45 ingot molds. When the pouring has been completed the train is taken to the "Stripping" yard.

STRIPPER CRANE AT WORK

The "stripper cranes" reach down and fasten their mighty claws over the lugs protruding from the top of the molds, and lift the molds from the ingots.

If the ingot happens to stick in the mold this situation is met by a powerful plunger which forces the ingot out while the claws hold the mold. The ingots are taken to the Soaking Pits and the empty molds are set on another train and taken to the Cleaning yards, where they are inspected and cleaned preparatory to returning to the Open Hearth Furnaces.

INSPECTION AND CLEANING OF MOLDS

Here the ingot molds are cleaned and inspected.

They must be free from all foreign substance, thus insuring "Armco" Ingot Iron against the slightest contamination.

If the inspection shows up any cracks or flaws, they are repaired immediately by electric welding or cutting, and if beyond repair are broken up for scrap.
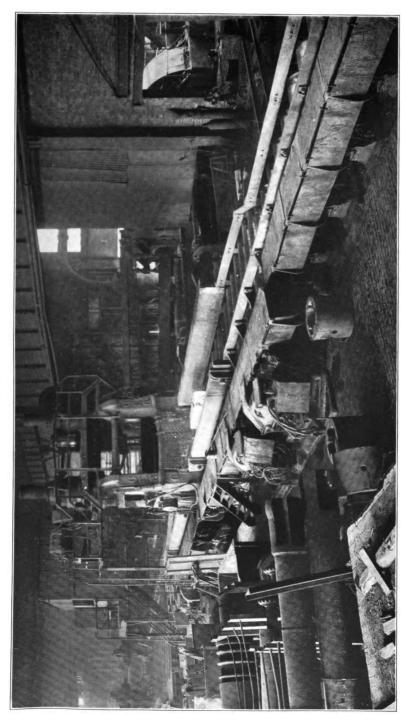
THE SOAKING PIT

After the molds are stripped from the ingots, the next step is to prepare the ingots for rolling into blooms, billets, slabs and sheet bars.

Although the outsides of the ingots are solid, the interior is yet in a molten state.

Therefore the Soaking Pits were devised as a means for bringing the ingots to a solid and uniform heat.   The battery at "Armco" consists of 24 pits, each one of which will hold 6 ingots.

The ingots are placed in these pits and allowed to "soak" for several hours until a uniform heat is attained, after which they are taken out and carried by a large crane to the Blooming Mill.

THE BLOOMING MILL

BLOOMING MILL

The reduction of ingots into blooms, billets and slabs is a most interesting sight.

The soaking pit crane delivers the white hot ingot to an electrically controlled roller conveyor leading to the blooming mill, where it is automatically upset into a horizontal position on the roll table.
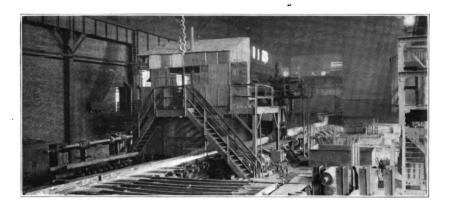
As the ingot reaches the rolling table, two large hydraulically controlled guides, one on each side, move towards the ingot and guide it to the proper entry into the rolls.   The first pass through the rolls generally ends in a loud report similar to the boom of a cannon and the throwing of sparks in all directions.

This mill is of the quick reversing type and rolls the ingots both forward and backward.   As soon as the ingot reaches the other side of the mill, a similar set of guides as those used in front steers the ingot on its back pass into the proper place.

At intervals during the rolling, long hydraulically controlled fingers reach up through the rolling tables and turn the hot ingots over and place them in the position desired by the operator in the "pulpit".

After a number of passes the ingot is reduced to the proper size and shape bloom, billet or slab and is released to a roll table conveyor, which takes it to the blooming mill shears.

Safety chains and screens are placed at various places to keep flying scale from injuring workmen or spectators.

THE "PULPIT"

Up above the conveyor is the "pulpit", from which the Blooming Mill is operated.
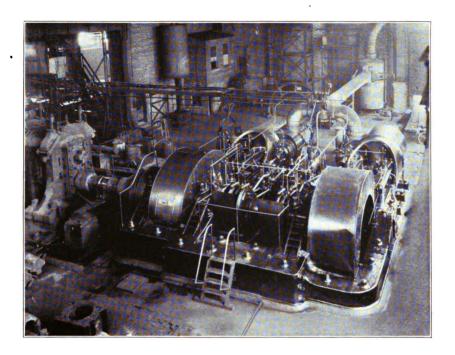
Nine men working in shifts of three, each 8 hours, are required in the pulpit and to the spectator the team work these men display in operating the control levers is marvelous.

One man operates a large set of levers to guide the ingot into the different positions necessary and to turn it over at the proper time.

Another operates levers controlling the screw or that part of the mechanism which raises and lowers the top roll, thus determining the thickness of blooms, also levers controlling the operation of conveyors.

A third man operates the mechanism controlling the speed and reversing movements of the Blooming Mill engine.
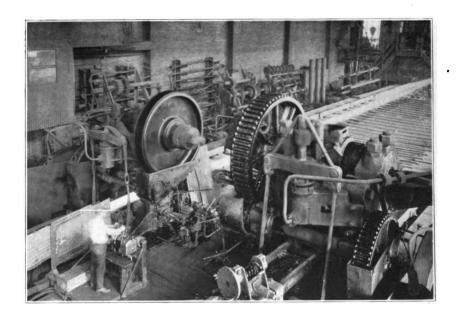
During the rolling periods these men are constantly moving levers, shifting their hands here and there. In many instances, unlooked for conditions necessitate concerted out-of-the-ordinary action. It takes instant judgment and without a word, a sort of sixth sense informs each man what the other fellow is going to do and his levers are handled accordingly.

BLOOMING MILL ENGINE

To operate a large Blooming Mill, forward and backward, quickly, and at the same time supply the tremendous power sufficient to reduce a large ingot to blooms, requires extraordinary high powered mechanism.

The Blooming Mill Engine has no fly wheel, this is due to the necessity of quick reversing.   This engine developes seventeen thousand horse-power at 125 revolutions per minute.

BLOOMING MILL SHEARS

After the ingots have been reduced to blooms, the first stop of the material is at the large shears.

Two important operations take place here, the first of which, cropping or cutting off of bad ends, is given special attention in producing "Armco" Ingot Iron.

The inspector takes no chances on pipes, seams, or even the slightest of imperfections, but crops the bloom until he is absolutely sure of solid metal.

The other operation is the shearing of the bloom into proper sized billets for rolling on the bar mill.

COOLING TABLE AND BAR MILL
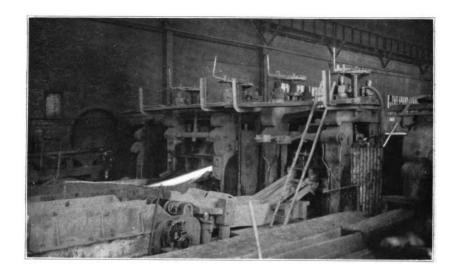
"Armco" Ingot Iron being practically a pure iron, is "hot short", or in other words it has a critical range of temperature in which it cannot be worked.

This temperature range is from about 1800° Fahrenheit to 1500° Fahrenheit or the color points between an orange and a dark or rose cherry.

To work the material in this range would cause it to break, but above or below these points "Armco" Ingot Iron will stand the most severe punishment.

"Armco" Ingot Iron Billets are allowed to cool through the critical range, previous to being rolled on the Bar Mills.

The billets get one pass on the Bar Mills after leaving the Blooming Mill shears, then travel up an incline conveyor to the cooling beds. When cooled through the critical range, they slide down the incline tracks and continue on their way through the Bar Mills.
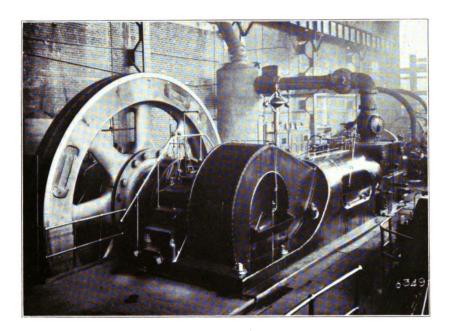
BAR MILLS

Here is shown the finishing side of the Bar Mills, where the blooms and billets pass forward and backward through the rolls and finally emerge in a long thin ribbon of iron or steel, called Bars.

These bars are 8″ or 12″ wide and about 120 feet long. The thickness depends upon the weight per foot desired in the ultimate sheet bar.

After the last pass through the rolls, an inspector checks up the thickness with an automatic micrometer gauge and the bar passes out onto the cooling bed for final inspection before being sheared into sheet bars.

THE BAR MILL ENGINE

The power behind the bar mill rolls must drive the mill at a continuous and uniform speed. The engine used for this work is rated at 5000 horse power and runs at 80 revolutions per minute. The exhaust from this engine as well as the blooming mill engine is used to generate electric power.
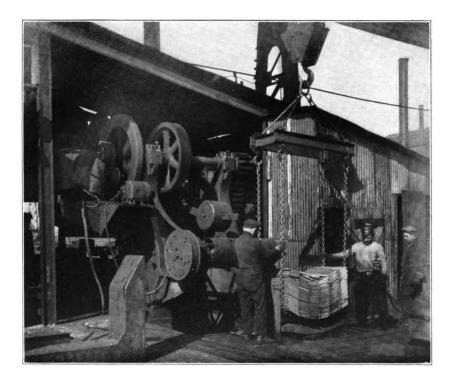
BAR SLAB COOLING BEDS

While the bars are cooling, they must undergo an inspection.

All "Armco" Ingot Iron bars are rigidly examined for imper-
fections and when found the inspectors put a ring around them,
indicating that the section so marked must be discarded.

The discards are returned to the Open Hearth Department for
remelting.

THE BAR SHEARS
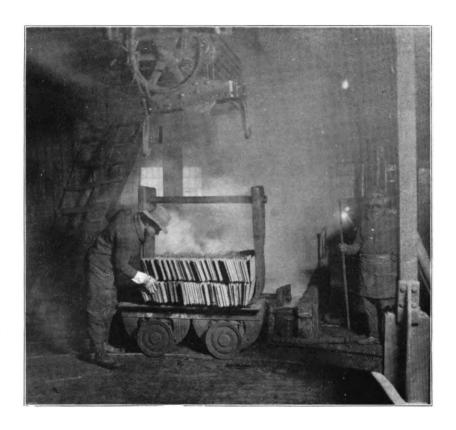
After sheet bars have been inspected they are cut by shears into sheet bars.

These shears are capable of shearing from 3 to 6 bars at a time, dependent upon the width and thickness of the bars.

The length of the bars is the width of the sheets ordered, plus the scrap allowance for shearing after being rolled.

The thickness and width of the bar, or "foot weight", determines the gauge, for when the bars are rolled into sheets the length specified plus shearing allowance, will give the gauge of sheet specified.

From here the sheet bars go to "sheet mills" for rolling into sheets.
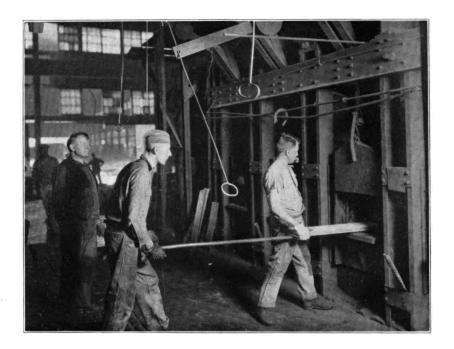
THE BAR PICKLER

In the manufacture of high grade Specialty sheets which may require a rigid surface inspection, it is necessary to have the surface of the bars clean before rolling them into sheets.

Therefore, to remove all scale and other dirty conditions the sheet bars are cleansed by means of a bath in sulphuric acid.

The acid is then washed off with lime water after which the bars are ready for the sheet mill furnaces.

In manufacturing the ordinary sheet finishes, such as Black and Galvanized, the pickling of bars is not necessary.

PAIR HEATING FURNACE

The sheet bars are charged into the "pair" furnace for heating to a rolling temperature.

To get them inside the furnace, the bars are laid on a long bar with a flat end, called in mill terms a "charging peel".

The pair heater with the aid of this peel is able to stack the bars to advantage in the furnace.

The Pair Heating furnace gets its name from the fact that the bars are worked in and out of the furnace in "pairs".

ROUGHING DOWN ON SOFT MILL

When the bars have been heated to the proper temperature they are brought out of the furnace with tongs and pulled over a cast iron floor to the "roughing mill", where they are given a number of "passes" to prepare them for the finishing rolls.

When the bars have been given the proper number of passes on the "roughing mill" they are transferred to the finishing rolls.

CATCHING

In working light gauge sheets only one man is used for catching, but in working heavy sheets two men act as catchers.

The "catcher's" duty is to catch the bars or sheets as they come through the rolls and return them over the top to the "rougher" or "roller".

DOUBLING

In the majority of cases it is not possible to make finished sheets from the bars as they come from the "Pair Heating" furnace.

Therefore, to facilitate the handling and increase the tonnage, a regular working scale for different gauges has been devised.

In rolling light gauge sheets, the bars are roughed down and matched, then placed in sheet furnaces and again heated to the proper rolling temperature and given one or two passes through the rolls, after which they are "opened" and "doubled".

Heavy sheets are finished either singly or in "pairs", lighter ones are "doubled" and finished in "packs" of four, six or eight sheets to the pack.

SHEET HEATING

The "matcher", "doubler" and "sheet heater" work together in putting a "pack" that has just been doubled into the sheet furnace.

The man with long tongs is the "sheet heater" and much of the success in rolling depends upon his knowledge and skill. In fact, his importance on the mill crew is second only to the roller.

FINISHING

When the packs have been heated in the sheet furnaces to the proper temperature for working to best advantage, they are taken out of the furnace and given a final rolling.

After the packs have been rolled to proper length, plus the allowance made for uneven edges, they go to shears for trimming to size.
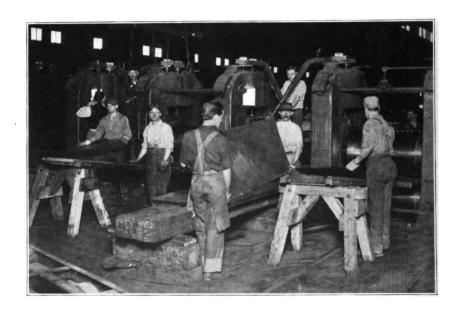
SHEARING AND OPENING

After the packs of sheets have been rolled, they are distributed on the floor between the rolls and shears to allow them to cool sufficiently to handle with gloves and hand pads for shearing.

The shearman sets gauges on his shears to conform with the size of sheets ordered and the packs are sheared on all four sides.

After being trimmed it is necessary to open the packs of sheets as the surfaces of the sheets have a tendency to stick together during the rolling process.

The opener bends up a corner of the pack with his tongs, which generally causes the sheets at that point to spring apart sufficient to allow the insertion of his tongs and then the sheets are separated one at a time.
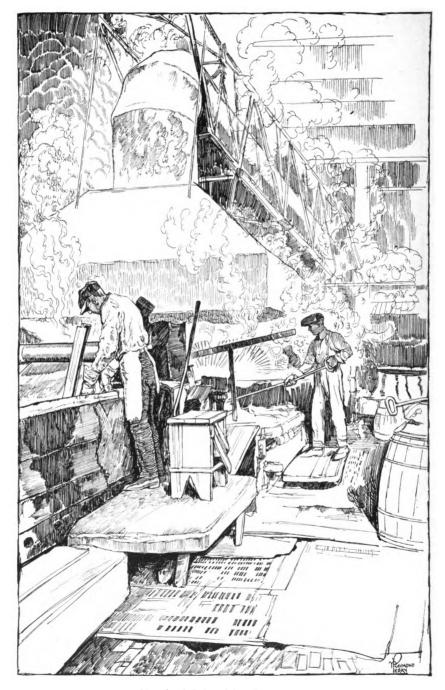
COLD ROLLING

Because of the buckled and wavy condition of sheets when delivered from sheet mills, one pass on cold rolls is given each sheet to flatten it.

SHEET MILL DRIVING POWER

A large 1500 horsepower electric motor is used to drive the sheet mill train of rolls.   This motor is connected to the roll train by a rope drive—working on large sheives.

Sketch of Galvanizing Department

Special Treatment of the Various Grades of Sheets

Up to this point all grades of sheets have been processed alike, but from here on it depends upon the grade to be furnished, as to what treatments are to be applied.

There are three general divisions however, which may be classified as follows: Black or O. P. C. R. & A. sheets, Galvanized sheets, Special Finish sheets.

The Annealing Department might be termed "the parting of the ways" for these three general divisions.

Black sheets get no further treatment.

Galvanized sheets are taken to Galvanizing Department and are cleansed, crated, inspected and stencilled there.

Specialty sheets are treated according to the grade desired and pass through the finishing department for patent levelling, resquaring, oiling, etc.

ANNEALING

The rough treatment to which iron and steel sheets are subjected up to this point, has so disarranged the "grain structure" and "molecular construction" that the sheets are unfit for any practical purpose.

To secure softness and ductility it is necessary to resort to annealing, which is a lengthy heat treatment under uniform temperature.

The sheets are stacked on annealing pans, and a large cover is placed over them and carefully sanded around the bottom to exclude air.   This is placed in a large oven and sealed in for a long rest under a uniform heat temperature.
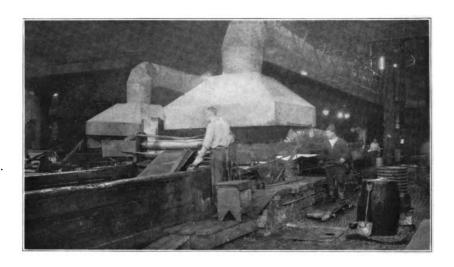
As the heat in these ovens must be uniform, in order to secure the best results, thermostatical instruments called pyrometers, are attached to each furnace.   These pyrometers electrically record in a central office the temperature of each furnace at all times and thus insures the maintenance of uniform heat.

SHEET PICKLING

In treating surfaces of sheets for coating or for special finishes, the first operation is a thorough cleansing by the pickling process.

The sheets are placed in racks and held in place by rods and chains made of acid-resisting material. Lifted by a carrier from bath to bath, they move around like a merry-go-round. The pivot is a large piston operated up and down by steam pressure to agitate the racks of sheets in the large vats, first through an acid bath, then through two washes of water, thus removing all scale, dirt, and surface con-taminations.

GALVANIZING POT

After being pickled, the sheets for galvanizing are conveyed in lifts to the galvanizing pots and stored in tanks containing hydrochloric acid.   This acts as a further cleansing agent and is of material assistance in preparing the sheets for coating.

The sheets are then one by one lifted from the tank and run through a set of rolls, passing through a flux box, and then through the galvanizing pot proper, which contains molten spelter.

As the sheets pass through the molten spelter a coating is obtained, but the amount has not been controlled.   Therefore as the sheets pass out of the pot, they go through a set of "exit rolls", which together with the rate of speed at which sheets are run through the pot, controls the weight of coating.

"Armco" Ingot Iron, because of its purity, does not dissolve in the molten spelter like steel.   Therefore, the spelter does not become contaminated and a more protective and tightly adherent coating is obtained.
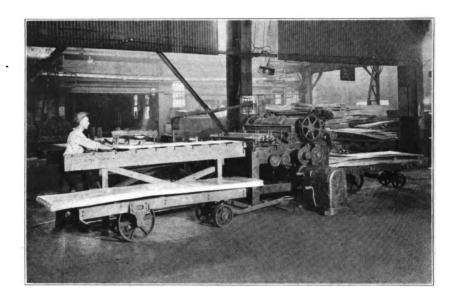
INSPECTION TABLES AND COOLING RACKS

The coated sheets leave the galvanizing pots on chain conveyors to permit air cooling to solidify the spelter coating.

The conveyors deliver the they to roller levelling machines for flattening, after which they pass on to an inspection table, where they are carefully gone over by the inspector and placed in the cooling rack.

Defective sheets are offset at the extreme right end of the rack, while the prime sheets are placed at the other end and each is taken from the wheel separately.

STENCILLING MACHINE

The "Armco" brand is put on every sheet of Ingot Iron produced in the American Rolling Mill Company's plants, unless otherwise specified by the customer.

The stencilling machine may be likened to a printing press, as the stencil pads are set according to the number of times sheet is to be stencilled and come in contact with an ink pad each time prior to making their impressions on the material when passing through.

LEGEND

The triangle with the trademark "ARMCO" and the words "Ingot Iron" indicates that the sheet is ARMCO Ingot Iron.

The numeral 24 indicates that the material is No. 24 Gauge.

8–4 records the fact that this sheet was galvanized between the hours of 8:00 A. M. and 4:00 P. M.

It was galvanized in the month (9th) of September, 8th day on No. 4 galvanizing pot. The galvanizing department records of this date and pot will show weight of galvanized coating and other galvanizing data.

8846 is the stock card number. On the stock card is recorded the "heat number" of the base material and complete data covering the manufacturing history of the sheet before galvanizing.

The "heat number" record will show the analysis of the iron.
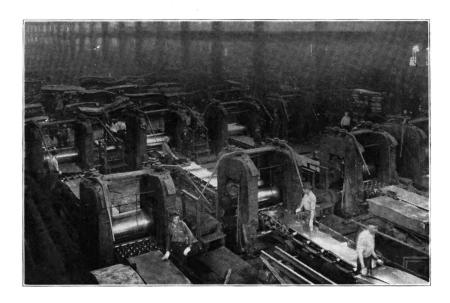
STENCILED SHEET
A sheet of Galvanized "Armco" Ingot Iron properly stenciled for shipment

ASSEMBLING AND SHIPPING ROOM

The assembly floor, just outside of which is the shipping platform, is a busy place. It is very rarely that mill conditions are such that an order can be made and go through the various processes all at one time. Therefore, as a rule all orders come through in many different lifts.

It is necessary to assemble these lifts properly so that the entire order may be shipped.
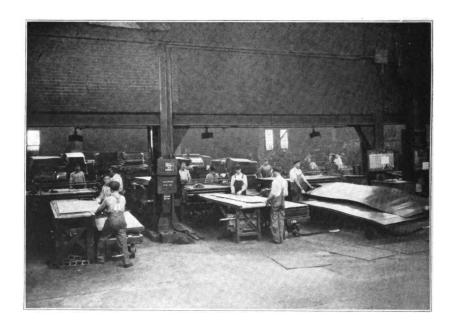
FINISH COLD ROLLING

In the majority of cases, the requirements of special finish sheets are smoothness and density of surface.

To secure density, the sheets are given a number of passes through cold rolls, the surfaces of which are highly polished.

All sheets for automobile bodies and fenders, metal furniture, cabinet work, locomotive jackets, stoves, etc., undergo this treatment so that a good finish on the enameled or painted surface may be secured.

ROLLER LEVELLING

Finish cold rolling produces a slightly buckled condition in sheets and it is necessary to level them.
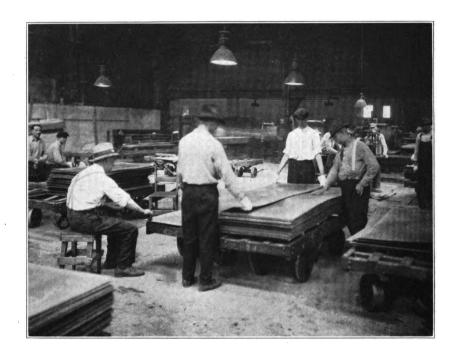
Roller levelling machines consist of a series of small rolls, the top set staggered over the bottom set. The weaving motion produced on the sheets automatically levels them sufficient for most purposes.

STRETCHER LEVELLING

Sheets for the manufacture of metal furniture, cabinets, etc., must be "dead flat", for the slightest wave or buckle will be greatly augmented in the final finish. Therefore, stretcher levelling is necessary.

The stretcher leveling process as shown in above illustration, consists of pulling apart by hydraulic pressure two large jaws, which grip the ends of sheets. This stretching operation decreases the elasticity of the sheets.

INSPECTION OF HIGH FINISH SHEETS

An exceptionally high standard of inspection on special finished sheets is maintained by The American Rolling Mill Company.

Here is shown an inspector, minutely looking over a lift of sheets for surface defects.

All defective sheets are sold as such, but in many cases cannot be distinguished from primes by the untrained eye.

RESQUARING SHEETS

For some purposes, sheets must be exact to size and square.

It is not possible to get them in that condition by shearing the sheets as they come from the sheet mills, as pack shearing could not be made accurate, and in addition to this fact the material is generally in a buckled condition.

In addition to the above, subsequent operations would undoubtedly warp, twist and add to or reduce the size to a certain extent.
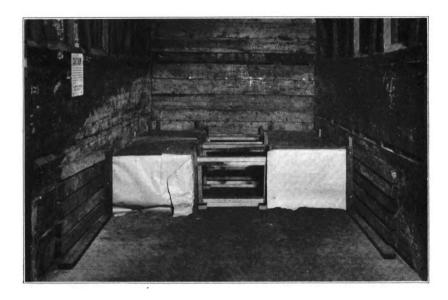
Resquaring is the last operation before shipment and is performed on shears especially built for accuracy.

OILING

The highly polished surface of high grade sheets would become scratched and marred in shipping, and if subjected to moisture would rust, unless thoroughly protected.

To provide against this, oiling machines are used, through which sheets are run and coated with a thin film of compounded protective oils.

LOADING AND CAR BRACING

The piles of high-finished sheets loaded in freight car are wrapped with heavy paper and braced.
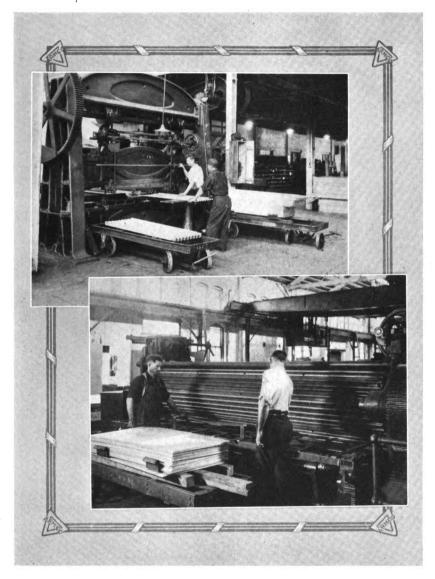
Regardless of the careful methods used however, sheets do not always arrive at destination in the best of condition.

CRATING AND SHIPPING FOR EXPORT

Crating and shipping for Export requires special care.   In the Export crating department, sheets are wrapped in heavy felt and tar paper and then packed in a patented metal crate.

The upper view shows crated material loaded in car and ready for shipment overseas.
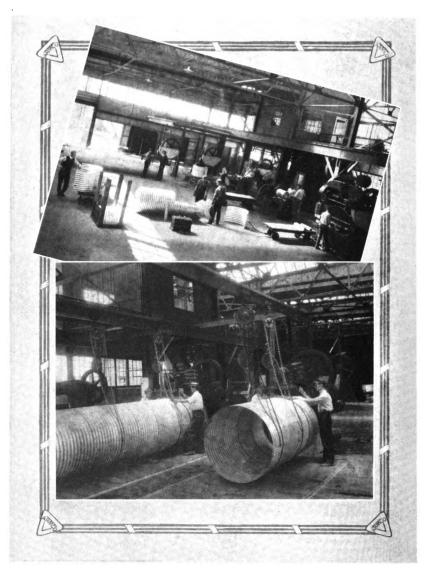
CORRUGATING MACHINE

The old toggle-press method of corrugating sheets has been almost entirely superseded by huge corrugating rolls.

The sheets pass through these rolls from one to five at a time, according to gauge, and come out the other side a finished product.

The upper view shows corrugated sheets being punched on a gang-punch press, prior to being formed into culverts and riveted.

CULVERT MANUFACTURING
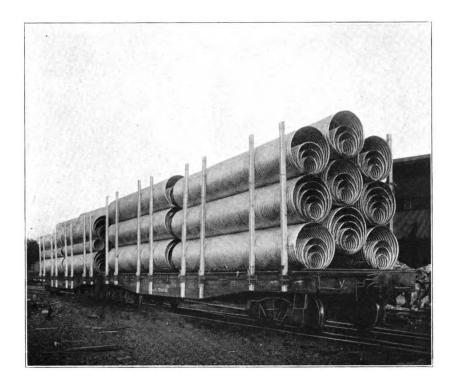
The top view shows a part of the department where nestable culverts are formed, fitted and made ready for shipment, principally into foreign fields. The object of nestable culverts is to reduce bulk in shipping.

In the left hand corner may be seen a metal crate partly filled and showing method of packing.

The lower view shows how large full formed culverts are riveted by machinery.

A SHIPMENT OF CORRUGATED CULVERTS

This shows how corrugated full circle culverts are loaded for domestic transportation.

The smaller sizes are nested within the larger ones to conserve shipping space.

POWER
EQUIPMENT
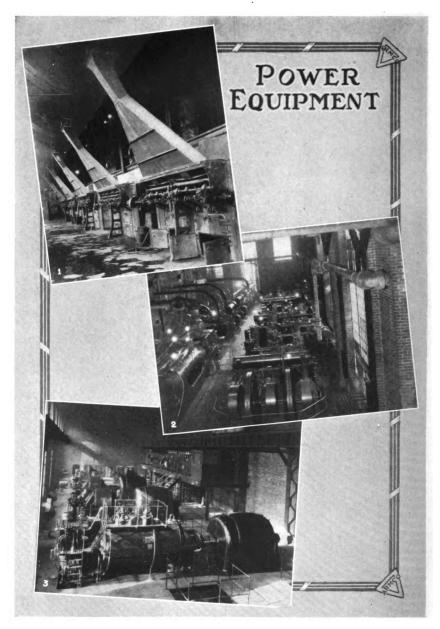
Photo No. 1—Boilers showing automatic stokers.   Less than one half the battery is shown here.

Photo No. 2—Pump and compressor room.

Photo No. 3—About one half of the electrical power house and switch boards.

These three views, while not constituting the entire equipment necessary to produce all of the power to run a plant as large as the East Side Works of the American Rolling Mill Company, are typical and should convey some idea of the enormous power facilities.

TYPICAL MILL EQUIPMENT
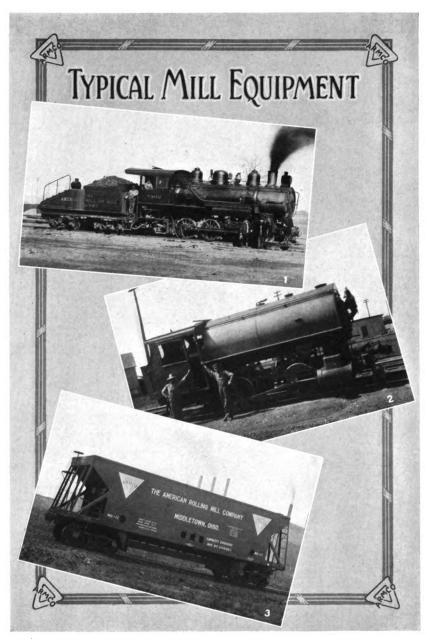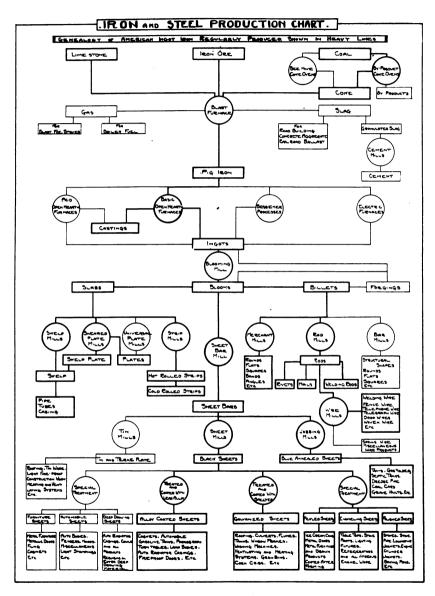
Photo No. 1—One of the locomotives used for heavy duty around the plants.
Photo No. 2—One of the locomotives used for the ordinary light shifting duty around the plants.
Photo No. 3—One of our own cars of the hopper type.

Genealogy of "Armco" Ingot Iron
Shown in heavy lines.

Five Points of Superiority

—:—

ARMCO

INGOT IRON

"Armco" Ingot Iron acceptably fulfills the demand on its five points of superiority—Chemical Purity, Rust-Resistance, Enameling Properties, Welding Properties and Electrical Conductivity—each a characteristic of tremendous importance to the diversified industries of America.

CHEMICAL PURITY

All raw materials entering into the manufacture of "Armco" Ingot Iron are especially selected.

The iron ore must be of highest quality. The American Rolling Mill Company owns in part the iron mines from which the ore is taken.

In producing its own pig iron also, Armco scores another point for chemical purity by being able to reject and divert to the making of steel any pig iron which does not meet the extraordinarily high standard set for ingot iron.

Other raw materials entering into the Open Hearth furnace charge must be of an especially low sulphur, phosphorus, manganese and copper content, and every car of such materials is carefully checked by a control laboratory before it is allowed to enter the plant.

Analysis and check analysis taken at different stages in the process of manufacture, must prove the product as not less than 99.84% pure, considering as impurities the following: Silicon, Sulphur, Phosphorus, Manganese, Carbon, Copper, and the gases Oxygen, Hydrogen and Nitrogen.

Special deoxidizing agents are used to eliminate as fas as possible the gaseous content.

Any material not meeting the standard set, is rejected. Therefore, uniformity and chemical purity are practically assured to the ultimate consumer.
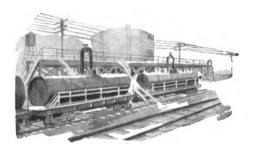
WELDING PROPERTY

An important phase of metal conservation is redeeming damaged or worn castings, structures of iron and steel, and the manufacturing of miscellaneous metal articles by autogenous welding.

A suitable filling material is the most important factor in making successful welds.   A skilled welder can correct improper frames, readjust, reshape, or re-clean the surfaces to be welded, but he cannot alter the composition of the filler.

The first essential of welding material is purity, the sulphur, phosphorus, manganese, carbon, silicon and gases, should be as low as possible.

Prior to the " World War " of 1914 - 1918, Swedish or Norway iron was principally used for welding.   When the importation of these materials became impossible, it developed that "Armco" Ingot Iron welding rods met all requirements, not only equally as well, but in a wholly satisfactory manner.
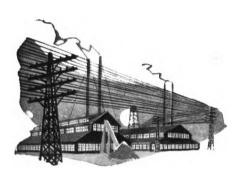
RUST-RESISTING PROPERTY

Because of its purity and evenness "Armco" Ingot Iron resists rust.   It is well known that the segregation of impurities accelerates corrosion through electrolytic action.   By practically eliminating the impurities in manufacturing "Armco" Ingot Iron, rust resistance is assured.

"The Electrolytic Theory of Corrosion" holds that purity, homogeneity, denseness and uniformity are necessary to combat rapid deterioration.

"Armco" Ingot Iron is manufactured with such skill, intelligence, and accuracy in each step that all of the above requirements are met.

ELECTRICAL CONDUCTIVITY

"Armco" Ingot Iron because of its high purity, even density and degasification, is a good conductor of electricity.   It holds first place among ferrous alloys and is used extensively for telephone and telegraph wire. Compared to the annealed copper standard which is taken at 100%, "Armco" Ingot Iron has a conductivity of 18%, or an electrical resistance approximately 5½ times that of copper.   Mild steel has a conductivity of 12%, or an electrical resistance of from 8 to 9 times that of copper.

In the transmission of power, Ingot Iron is adapted for use as a stranded wire cable for high tension lines across long spans, such as rivers, gulches, etc., wherever it is not practical to use copper wire.

The uniformity of "Armco" Ingot Iron in analysis, density, etc., is a guarantee of its unvarying conductivity.

ENAMELING PROPERTY

As a base for vitreous enameling, "Armco" Ingot Iron is unexcelled.

The enameling compound is fused on to the base metal at high temperatures, ranging from 1400° Fahrenheit to 2000° Fahrenheit.

It is apparent that when metals with a high gas content are subjected to this high temperature, the gases will expand and cause eruptions, resulting in blisters.

The freedom of "Armco" Ingot Iron from these imprisoned gases eliminates this condition and reduces discard losses to a minimum.

Experience has proved also that Ingot Iron warps less than other materials through the cooling process after enameling.

LABORATORY VIEWS

The two top pictures are sections of the main chemical laboratory, while the lower ones are of the electrical laboratory.
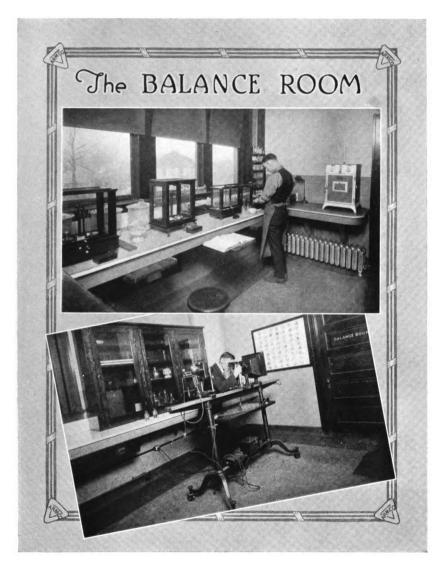
RESEARCH LABORATORY

This division is responsible for "Armco" quality in all products.
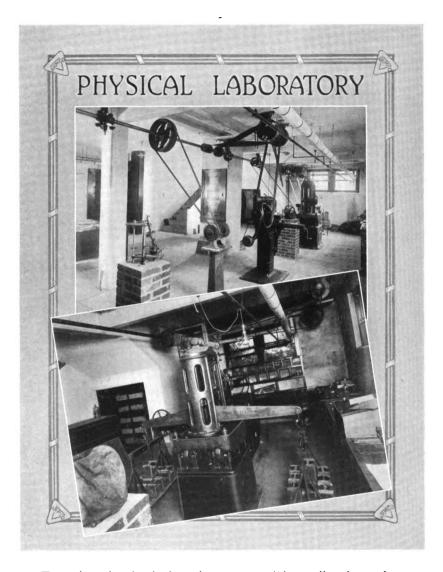
This is one of the most thoroughly equipped metallurgical laboratories in the world for the control of sheet iron and steel.

Continuous research is conducted for the production of better quality and experiments have been conducted for many years with various alloys and manufacturing processes to produce a better material, if possible, than is now being manufactured.

The BALANCE ROOM
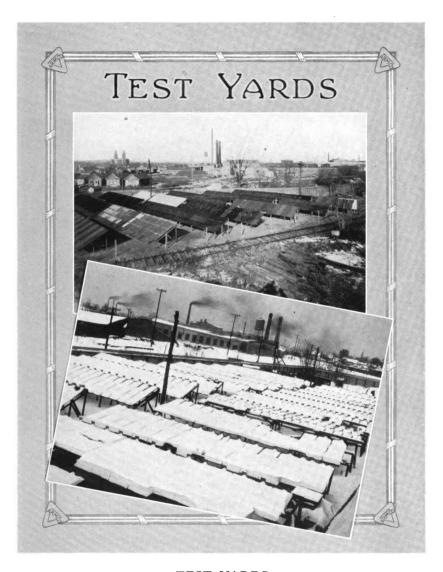
These delicate instruments are very essential in laboratory work, because of the absolute accuracy necessary in making analyses.

The lower view is of a metallurgical microscope.   This machine takes photographs that reveal the innermost secrets of iron and steel formations.

Two views in physical testing room at "Armco", where the very latest machinery for testing the various strengths and physical structures of iron and steel is available.

TEST YARDS

Two views of test yards, wherein material of every known brand is placed by the Research Department for observation under as nearly normal service conditions as it is possible to secure.

Up to date, the test yards have been in existence ten years and an unbiased record of every sheet of material tested is available in our Research Department.

INGOT SPLITTING

In order to check up efforts to control the gaseous content in ingot iron, ingots are periodically selected at random for splitting.

They are taken to this powerful cold saw and longitudinally sawed in two for determination of the inner structure.

This arrangement has proved a valuable asset in assisting The American Rolling Mill Company to better the quality of ingot iron and other products.

SPLIT INGOTS

This is a comparative illustration between a split portion of an "Armco" Ingot Iron ingot, as shown on the left, and a mild steel ingot, as shown on the right, of the photograph.

The very dense and almost solid structure of the ingot iron is very apparent, as compared to the spongy structure of the steel. This clearly indicates the superiority of pure iron over the ordinary steel product.

CORROSION OF IRON AND STEEL

R UST prevention of iron and steel is one of the greatest economic and conservation problems of today.

It has been stated that one large railroad system of the United States suffers a daily loss of more than 18 tons of steel as a result of the ravages of rust and in the Yearbook of the Bureau of Mines for 1916 it was estimated that the yearly loss of steel from deterioration, due to rust, is one million tons. This tonnage in raw or semi-finished materials, represents a value of $60,000,000 to $75,000,000 and as much again would hardly cover the cost of fabricating it into finished products.

The electrolytic theory of corrosion is the theory most widely accepted by scientists. This is based on simple and well understood principles. The elements necessary to generate and promote electrolysis are two electrodes of differing polarities, an electrolyte in contact with both electrodes, a metallic connection external to the electrolyte and a depolarizer to insure continuity of action.

Where metals of different polarity are immersed in a suitable electrolyte, (water for instance) and an outside metallic connection provided, an electric current is set up and the metal from which the current flows tends to dissolve. As an example illustrating this theory, assume a battery with the electrodes of dissimilar polarities to be iron and copper. The iron in this galvanic couple will be electropositive to the copper and will gradually dissolve.

If a strip of copper and a strip of iron are imbedded in moist sal ammoniac, such as is found in an ordinary dry cell, the solubility of the iron under such conditions will generate sufficient electric current to ring a doorbell.
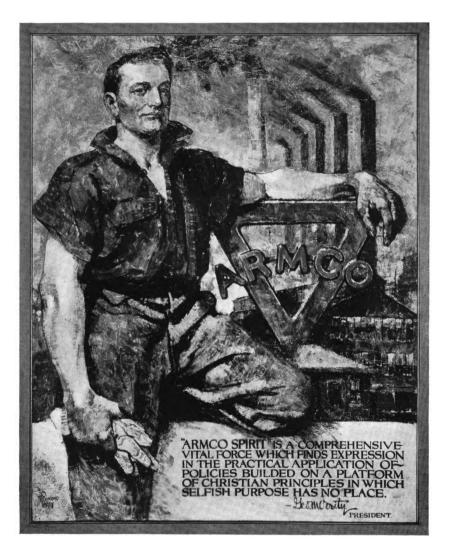
Steel contains various impurities differing in polarity from the iron base, practically all of which, with the exception of manganese, are electronegative to iron. In the manufacture of steel when manganese is added to the molten metal, the manganese has a tendency to

segregate or accumulate in some places more than others. It is at such segregated places that rapid corrosion takes place. The electropositive manganese being in contact with the electronegative iron in the presence of moisture dissolves, leaving a pit. Other elements in steel, such as carbon and copper, are more electronegative to manganese than iron and the electrolytic action between these elements and the manganese is intensified.

In addition to the corrosion caused by a difference in potential between various elements, electrolytic action takes place if the metal contains stresses and strains. A twisted bar of metal will corrode more rapidly where twisted (which is electropositive) than portions of the same metal where no stresses have been applied. This emphasizes the importance of proper annealing in relieving rolling strains in materials.

Electrolytic action can be observed if a plate of pure iron has two holes drilled in it; one hole being filled with metallic tin, the other with metallic zinc, and the plate subjected to the action of sal ammoniac solution. It will be found that there is a considerable area surrounding the zinc where the iron shows no corrosion, while the zinc itself becomes discolored. Zinc being electropositive to iron. The iron surrounding the tin, which is electronegative, will be found to be corroded for a considerable distance from the tin, while the tin itself remains bright. This experiment shows the protecting effect of an electropositive coating—zinc on iron—and it shows where in each instance the electropositive metal is attacked.
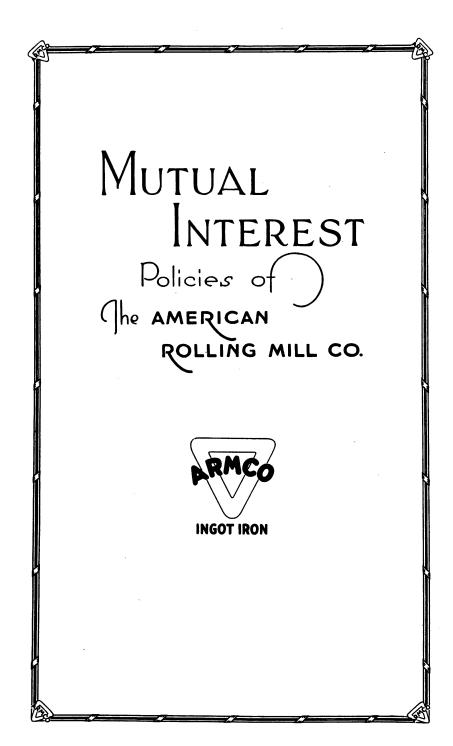
Steel subjected to the weather presents all the factors necessary to electrolytic action. The heterogeneity of the material chemically and mechanically provides the necessary electrodes of differing polarity, the moisture of the air, either in a natural state or made more active because of condensed sulphurous or other gases, is the electrolyte and the metallic connection is made through the body of the metal. The oygyen of the air effects the necessary depolarization. Electrolytic action must proceed if all factors are present and it will cease if any one is withdrawn.

"ARMCO SPIRIT" IS A COMPREHENSIVE VITAL FORCE WHICH FINDS EXPRESSION IN THE PRACTICAL APPLICATION OF POLICIES BUILDED ON A PLATFORM OF CHRISTIAN PRINCIPLES IN WHICH SELFISH PURPOSE HAS NO PLACE.

—George Verity

PRESIDENT.

"**A**RMCO SPIRIT" is a comprehensive vital force which finds expression in the practical application of policies builded on a platform of Christian principles, in which selfish purpose has no place.

"ARMCO SPIRIT" comb ines in proper proportion a spirit of fairness, a square deal always, both in theory and practice; a big broad view of every problem, cutting out all narrowness and littleness; a spirit of unselfishness, of loyalty, of courtesy to and consideration for the other fellow.

"ARMCO SPIRIT" is, in fact, simply an exemplification of the highest standard of real American citizenship."

Mutual
Interest
Policies of
The American
Rolling Mill Co.

ARMCO

INGOT IRON

EMPLOYMENT DEPARTMENT

When a man desires to become an employee of The American Rolling Mill Company, he must first present himself at the Employment Department.   Here he learns whether the company has need of a man of his type and experience.   If so, certain data regarding him are recorded, such as his name, age, address, nationality, trade, education and previous employment.

The possession of such facts covering each employee makes of the Employment Department a bureau of information covering the personnel of the organization.   This information is confidential, but is available to all foremen for proper purposes.
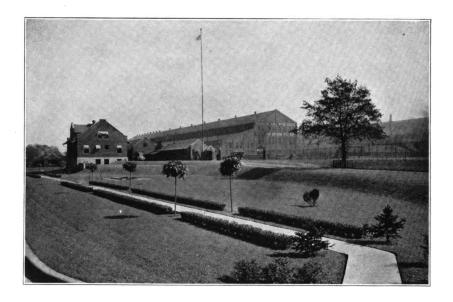
TRAINING DEPARTMENT

Educational work is conducted by The American Rolling Mill Company, because of a belief that whatever helps men to be more intelligent and to understand their jobs better, makes them of more value to themselves and to their work.

The Training Department is organized so as to bring under one head all of the educational activities of the company.

Apprenticeship courses are conducted in Foundry, Machinist, Electrical, Blacksmith and Masonry trades.

Classes in general office training, Americanization, salesmanship, and various technical courses are also conducted by the Training Department.

HOSPITAL

This modern fire-proof building is located just outside of the entrance to the East Works and is surrounded by an area of beautiful parking.

The building is supplied with every convenience and modern hospital appliance for the care of injuries. A complete X-Ray outfit is at hand for examining and photographing injuries, when this is deemed advisable.

Light, ventilation and sanitary conditions are the very best and a competent surgeon, two assistants, and skilled nurses are constantly available, so that either sickness or injury can receive immediate and careful attention.

BANK

This bank building was constructed and equipped by The American Rolling Mill Company and located just outside the entrance to the East Works, for the purpose of affording employees a modern, up-to-date bank conveniently located, where pay checks can be cashed and checking and savings accounts opened:

The institution was incorporated as a subsidiary of the American Trust and Savings Bank of Middletown, Ohio, and is affiliated with the Federal Reserve system.

"ARMCO" ASSOCIATION

The third and fourth floors of this building are occupied by the Armco Association, which is composed of, governed by, and conducted by Armco men for the betterment of themselves and families. The association is neither a part of The American Rolling Mill Company, nor controlled or financed by the Company.

A complete gymnasium is housed by the Association and the encouragement of all sorts of athletics is a point of the policy.

The object of the Armco Association as written in the constitution is as follows: "To afford relief to any member who while in the employ of The American Rolling Mill Company, may through sickness or injury be rendered incapable of performing his duty. To enable him to avoid the necessity of appealing to his fellow workmen for aid and also to promote the general welfare of its members and to bring the workmen of the various departments into closer relationship."

ARMCO FOREIGN CLUB

The men of foreign birth have separate club advantages in the Armco Foreign Club House.
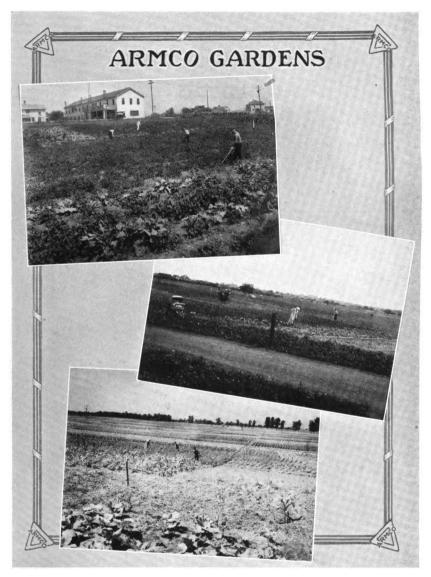
Here the members are allowed to bring their out-of-town visitors. For amusement they have billiard tables, a card room and a reading room supplied with foreign language newspapers and club stationary.

FOREIGN COLONY
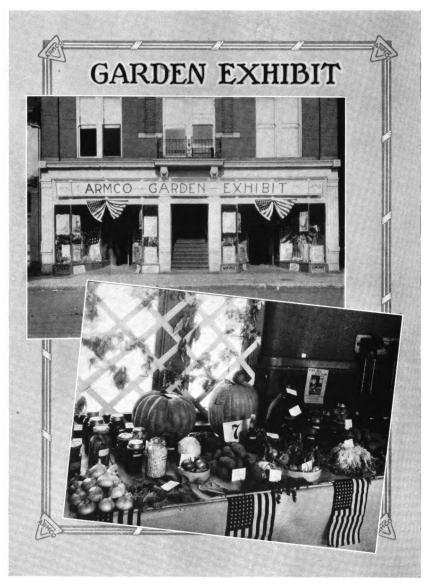
The above views were secured in the foreign colony of Armco employees and are typical of the homes occupied by these employees.

The majority of homes are owned by the occupants and the general appearance of these places tends to prove the value of wholesome Americanization methods.

ARMCO GARDENS

The American Rolling Mill Company owns large tracts of land suitable for truck gardening, and each year they have the ground prepared and turned over to all employees who wish to establish and care for vegetable gardens.
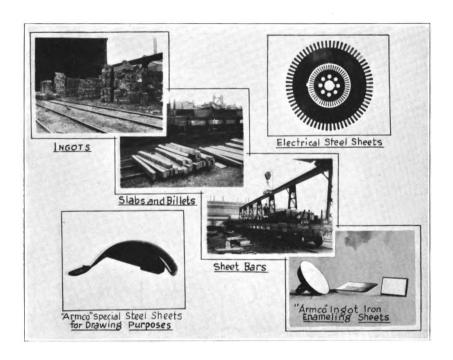
These views are typical of the general appearance of the garden plats, and in the top view the large building shown is called the "Bachelors Club", which is provided by the company as a home for young men whose family attachments are elsewhere.

GARDEN EXHIBIT

ARMCO GARDEN EXHIBIT
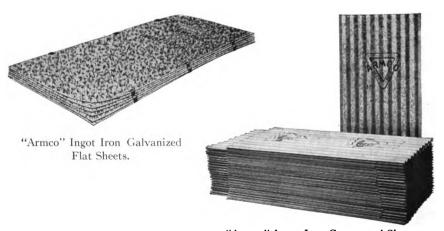
Each year as the crops mature, the company finances an exhibition, held under the auspices of the State Agricultural Department, for Armco employees.

The top photograph is typical of the exterior of such an exhibit, while in the lower photograph may be seen a representative exhibit of products raised and canned.

ARMCO
Products

INGOTS

Electrical Steel Sheets

Slabs and Billets

Sheet Bars

"Armco" Special Steel Sheets for Drawing Purposes

"Armco" Ingot Iron Enameling Sheets

"Armco" Ingot Iron Galvanized Flat Sheets.

"Armco" Ingot Iron Corrugated Sheets.

ARMCO AUTOMOBILE STEEL SHEETS
AND PICKLED SPECIALTIES

In 1912 The American Rolling Mill Company entered the field of Automobile Steel Sheets.   At that time the grades of sheets required were for flat curved and hand-formed work, demanding only a smooth finished, full pickled, full cold rolled and annealed stock. Sometimes "stretcher leveling" was specified.

The Automobile parts made of sheet metal at that time were not intricate in form and the manufacturers did not require as good surface as they demand today.   In fact, had it been suggested in the early days of metal automobile bodies that the manufacturers of sheets would eventually be required to produce the high finished, drawing quality sheet of today, the suggestion would have been ridiculed as "impossible."

In the beginning, The American Rolling Mill Company specialized on one remarkably versitile sheet, Silver Finished Auto Deep Drawing Steel, which blazed its way preeminently into the automobile field.

Additional grades were added, until at present there is a complete range of Armco Automobile Sheets to meet the full, general, diversified requirement and wishes of the trade.   Each grade has received the careful attention of specialists who follow closely the trend of the time and quite frequently anticipate the demand of the automobile manufacturers in the production of material to meet the requirements of new design.

ARMCO Automobile Steel Sheets are made from special analysis Mild Open Hearth Steel.   Since we deal primarily in Specialties our facilities for the control of analysis, annealing, cold rolling, inspection, etc., enable us to suit our product to the individual requirement of each buyer.   This perfection has only been made possible through years of experience in developing high-grade specialties and an organization skilled through years of practice in this type of work.

PICKLED SPECIALTIES

We are prepared to furnish the following grades of Automobile Steel and Pickled Specialty Sheets:

Hot Rolled Single Pickled and Annealed.
Hot Rolled Full Pickled and Annealed.
Hot Rolled Single Pickled Deep Drawing.
Hot Rolled Full Pickled Extra Deep Drawing.
Single Pickled, Cold Rolled and Annealed.
Single Pickled, Full Cold Rolled and Annealed.
Single Pickled, Cold Rolled Deep Drawing.
Full Pickled, Full Cold Rolled and Annealed.
Full Pickled, Full Cold Rolled Deep Drawing.
Full Pickled, Full Cold Rolled Extra Deep Drawing.
No. 2 Grade Furniture.   (Single Pickled, Full Cold Rolled and Annealed.)
No. 1 Grade Furniture.   (Full Pickled, Full Cold Rolled, Annealed and Deoxidized.

Automobile Grades are furnished in steel only; other grades furnished in Ingot Iron or steel.

DEOXIDIZED OR SILVER FINISH SHEETS

Our Silver Finish Sheets are deoxidized and have a very bright surface finish closely resembling a cold rolled strip steel surface.

A Silver Finish Sheet is more uniform in temper than the regular commercial Auto Body Sheet of similar grade, because in annealing air does not come in contact with the edges of the sheet forming an oxide thereon, and hardening the edges of the sheet because of this contact.

ARMCO AUTOMOBILE STEEL SHEETS

Ranges of maximum sizes by gauges on Automobile Steel Sheets within which the normal standard of surface finish can be secured.

FOR TWO COAT JAPANNED WORK

(Two Coat Dipped Enamel)

Gauge	No. 18	No. 19	No. 20	No. 21	No. 22
Width	Length	Length	Length	Length	Length
18″—21″	84	84	84	84	84
22″—25″	108	108	108	96	96
26″—30″	108	108	108	96	96

FOR THREE COAT JAPANNED WORK

(Three Coat Dipped Enamel)

Gauge	No. 18	No. 19	No. 20	No. 21	No. 22
Width	Length	Length	Length	Length	Length
18″—21″	96	96	96	96	96
22″—25″	108	108	108	108	108
26″—30″	120	120	120	96	96

FOR THE NORMAL STANDARD OF AUTOMOBILE BODY PAINTING

Gauge	No. 18	No. 19	No. 20	No. 21	No. 22
Width	Length	Length	Length	Length	Length
18″—21″	96	96	96	96	96
22″—25″	108	108	108	108	108
26″—36″	120	120	120	120	120
37″—40″	120	120	120	120	. . .
41″—42″	120	120	120	. . .	. . .
43″—48″	120	120	. . .	. . .	. . .

Pickled Steel Specialty Sheets as a whole are subjected to all classes of drawing operations, and in fact are also subjected to spinning operations in some cases. It is, therefore, most essential in considering specifications that we have full information relative to the article to be made, the method of stamping, drawing or spinning, the number of operations necessary to complete the article and whether or not the material is pickled and annealed between operations. It is also necessary that we know the form of dies used. This information will enable our production engineers to specify treatment which will secure the best results in working qualities of the sheet.

ARMCO AUTOMOBILE STEEL SHEETS

AUTO BODY GRADE

This grade of Automobile Sheets is carefully inspected for surface finish in No. 22 gauge and heavier to secure a surface for the standard of roughing and painting required for automobile bodies.

The flatness of the sheet is such that it can be used for flat curved work. This grade of material should not be used, however, where flatness is a special feature unless it is stretcher leveled. Auto Body grade may be used for bumping in No. 22 gauge, but in the heavier gauges it is not as satisfactory for this purpose as a deep drawing grade.

This grade is not recommended for deep drawing but it will stand a 180 degree bend with and against the grain.

AUTO BODY DEEP DRAWING GRADE

This material is of the same surface standard as Auto Body grade, but it is a softer and more workable sheet because of the extra annealing treatment it receives. It is recommended in No. 20 gauge and heavier for bumping requirements.

This grade of sheet cannot be guaranteed against stretcher strains as it is produced for normal drawing requirements.

The surface finish on this grade of stock is satisfactory for the normal standard of Automobile Body painting. The material cannot be guaranteed to be as flat as Auto Body Steel, as the principal features developed in this grade are ductility and deep drawing qualities, in combination with the Auto Body standard of surface finish.

ARMCO AUTOMOBILE STEEL SHEETS

AUTO BODY EXTRA DEEP DRAWING GRADE

This sheet is produced with an Auto Body standard of surface finish, but the temper varies widely, according to the requirements the material is especially made to serve.

Extra Deep Drawing Steel is often made to serve a normal deep drawing requirement, which is made extra hazardous, however, by the demands of the buyer to have the material minimize stretcher strain development.

Extra Deep Drawing Steel varies in temper to meet the draw which it is to serve whether a direct draw, a compression draw, flange draw or compound draw.

HOOD AND FENDER GRADE

This grade of Automobile Steel Sheets is produced in No. 22 gauge and heavier. It is stiffer than Auto Body grade, having received extra cold rolling on polished rolls.

Hood and Fender Grade is inspected more closely for surface finish than Auto Body Steel to permit adaptability for the average standard of three or more coats dipped enameling.

From a flatness standpoint this grade is adaptable for flat curved requirements such as hoods, running board aprons, flat fender tops and fender skirts.

This grade of sheet will answer for beading around wire and in No. 21 and No. 22 gauge will stand a 180 degree bend with and against the grain.

HOOD AND FENDER DEEP DRAWING GRADE

This stock is of a surface finish suitable for a normal standard of three or more coats dipped enameling plus a ductility sufficient for stamping doors and for practically all convex fenders.

ARMCO AUTOMOBILE STEEL SHEETS

HOOD AND FENDER EXTRA DEEP
DRAWING GRADE

Hood and Fender Extra Deep Drawing Grade is made to draw into crown fenders with a minimum amount of stretcher strain development and when used for this purpose comes well within the normal standards for breakage. This grade is especially adaptable for the forming of crown fenders where the fender body is all one piece. This includes fender tops, fender visors and fender rims.

SPECIAL FENDER GRADE

The American Rolling Mill Company produces a special Fender Grade, Silver Finished Sheet. This is a bright highly polished grade of sheet of either a hard or deep drawing quality necessary for the manufacture of two coat dipped enameling requirements, whether for hoods, running board aprons, instrument boards or fenders. The standard for two coat dipped enameling is so severe that practically 50% of first-grade hood and fender steel will not meet it. Consequently, we do not recommend hood and fender grade for two coat work.

On a Silver Finished Sheet any defects in surface are glaringly apparent. For this reason on Special Fender Grade Silver Finished, we are enabled to insure a surface more like a mirror than on any other sheet outside of cold rolled strip steel.

Special Fender Silver Finished Steel is the only grade that we manufacture which can be recommended for nickel-plating purposes where a smooth high finish is required. Practically any grade of steel sheets can be nickel-plated irrespective of surface but the plating of a sheet does not in the slightest degree eliminate any of the surface defects on the base sheet, but rather intensifies them.

RADIATOR CASING STEEL SILVER FINISHED

This grade of sheets has surface finish equal to the normal Hood and Fender Steel and in addition possesses special drawing qualities for compression draws such as radiator casing. From the standpoint of uniformity in giving freedom from breakage and in decreasing stretcher strain development, it is superior to other sheets on the market.

The fact that sheets of this grade are deoxidized permits of a finer surface finish than normally applies on radiator casing steel, and it is of special value for the close die work on radiator casing in giving long life to the dies.

ARMCO FURNITURE STEEL SHEETS

FURNITURE GRADES

We can furnish Furniture Grades in either Ingot Iron or Steel and in gauges from No. 10 to No. 24 inclusive.

No. 1 Grade Furniture Steel is a full pickled, full cold rolled, stretcher leveled, annealed and deoxidized sheet.

No. 2 Grade Furniture Steel is a single pickled, full cold rolled annealed sheet (not deoxidized).

It is impossible to produce as uniformly a good surface on Furniture Steel in extreme widths or heavy gauges as can be expected in standard sizes up to 36″ wide.

No. 1 Grade Furniture Steel is carefully inspected after stretcher leveling and from the standpoint of flatness should be satisfactory for all high-grade furniture and kindred requirements.

The following table gives our standard pickling and cold rolling limits:

ARMCO FURNITURE STEEL SHEETS

GAUGE	54″	50″	48″	44″	42″	40″	36″	32″	30″	28″	26″	24″
$\frac{3}{16}$″ to No. 10	...	...	156	156	156	156	156	156	156	156	156	156
No. 11 to No. 17	144	144	144	144	144	144	144	144	144	144	144	144
No. 18 to No. 19	...	144	168	168	168	168	168	168	168	168	168	168
No. 20 to No. 22	...	...	144	144	144	168	168	168	168	168	168	168
No. 23 to No. 24	...	...	...	...	120	120	144	144	144	144	144	144
No. 25 to No. 26	...	...	...	...	...	120	144	144	144	144	144	144
No. 27	...	...	...	...	...	...	144	144	144	144	144	144
No. 28	...	...	...	...	...	...	120	120	120	120	120	120

ALLOY COATED COLD ROLLED SHEETS

Can be furnished in Ingot Iron or Steel.

This product is used chiefly in the manufacture of metal caskets, gasoline tanks for automobiles, auto trucks and tractors and water tanks for tractor radiators.

Due to the treatment and care exercised in the manufacture of Alloy Coated Sheets this material possesses excellent drawing qualities which can be varied to suit each individual requirement. Because of its composition, the alloy coating acts as a flux and causes the sheet to flow uniformly under the dies. The soft coating reduces friction and wear on the dies to a minimum.

Alloy Coated Sheets solder with extreme facility; they may be spot welded if desired, and can be copper plated or nickel plated. In nickel plating it is not necessary to flash the sheets with copper before plating. The Alloy Coating makes the sheet an ideal material to receive and hold paint.

The base sheets are given a full pickled, full cold rolled finish and properly treated in annealing processes to secure the desired drawing qualities. After this treatment they are coated with a mixture containing approximately 88% lead and 12% tin. This coating is decidedly different in composition from that used on commercial long ternes and runs approximately ½ ounce per square foot. In terne plate terms this is the equal of approximately 13 lbs. coating based on a box of terne plate containing 112 sheets, 20″ x 28″, re-squared.

Alloy Coated Sheets can be furnished in gauges No. 12 to No. 26 inclusive.

Gauge variation limits applying to all Black Sheets also apply to Alloy Coated Sheets.

SKETCH PLATES

Sketch Plates can be sheared to specifications provided dimensions are within our rolling limits.

INGOT IRON ENAMELING STOCK

Ingot Iron Enameling Stock is a pickled sheet, the surface while smooth and free from scale has been cold rolled only sufficiently to insure flatness.

Freedom from gases and impurities makes Ingot Iron Enameling stock enamel without pinholes. The material is extremely soft and hot rolling of the sheets does not produce as glazed a finish on the soft iron as it does on steel. Ingot Iron for this reason has a pronounced velvety surface which enables it to take a more uniform coat of enamel.

Enamel, when based on Ingot Iron contains fewer defects such as pinholes, lumps or non-uniformity in the thickness of the enamel. A depth of color and a beautiful finish is produced that cannot be obtained by the use of a steel base.

Ingot Iron Enameling Stock can be depended upon to produce a uniform and extremely large percentage of fine, enameled ware. Rejection percentage rarely exceeds one to two per cent, therefore less furnace capacity is required to obtain the same output as would be obtained from the use of Enameling Steel Stock.

The uniformity of Ingot Iron Enameling Stock is due to the close specification under which it is manufactured. In the Open Hearth furnace it is refined to a greater degree than steel. The extent of this refinement is shown by the fact that in the aggregate the impurities, silicon, phosphorus, sulphur, carbon, manganese, copper, oxygen, hydrogen and nitrogen, will not exceed $16/100$ of 1%. The gases such as hydrogen, nitrogen, carbon monoxide and carbon dioxide are reduced to uniformly low limits. This remarkable freedom from gases and other impurities insures uniformly excellent results from Ingot Iron Enameling Stock.

Ingot Iron Enameling Stock can be produced in Extra Deep Drawing quality.

See page 218 for Table of Limits governing the manufacture of Armco Ingot Enameling Stock.

HIGH CARBON STEEL

We are prepared to furnish High Carbon Steel Sheets containing .15% carbon or over, within the following limits:

No. 18 to No. 20 gauge inclusive in sizes not exceeding 30″x120″
No. 21 to No. 23 gauge inclusive in sizes not exceeding 30″x120″
No. 24 to No. 26 gauge inclusive in sizes not exceeding 36″x 96″
No. 17 gauge and heavier, up to rolling limits.

In addition to regular grades of High Carbon Steel as required for road scrapers, shovels, putty knives, coal chutes, etc., we produce a special grade known as Section Steel for the manufacture of mowing machine knives; also special grades used in the making of automobile clutches, corn knives and saws.

CIRCLES

Any of our regular grades can be furnished in circles within these limits:

Lightest—as light as produced on the mills.
Heaviest—¼″.
Smallest—10″ diameter.
Largest—60″ diameter.

Heavier sheets can be cut to circles on straight shears, but edges will be irregular.

INGOT IRON BLUE ANNEALED SHEETS

Blue Annealing removes rolling strains and heats the sheets sufficiently to permit of flattening in the roller leveller.

Blue Annealed Ingot Iron is the best material to use where resistance to corrosion is a factor. Ingot Iron resists rust and in addition has the best of working qualities. It is especially adapted to the manufacture of water and oil tanks, range boilers, gas containers, electrical switch boxes, mine cars, grave vaults, etc.

Steel Blue Annealed Sheets can also be furnished under normal conditions (see page 218 for limits).

INGOT IRON GALVANIZED SHEETS

Ingot Iron Galvanized Sheets find their chief use where rust-resistance is essential. By repeated tests and experiments, it has been found that Ingot Iron dissolves much more slowly in molten zinc than does steel. This gives the sheet a pure coating of spelter which will withstand the action of the elements to a much greater degree than a coating with a higher iron content.

Ingot Iron Galvanized Sheets are used extensively in the manufacture of culverts, flumes, washing machines, refrigerators, roofing, siding and formed factory products.

Ingot Iron Galvanized Sheets can be furnished in all gauges from No. 10 to No. 28 inclusive up to 48″ in width and 144″ in length.

INGOT IRON POLISHED SHEETS

Ingot Iron Polished Sheets are of a bluish, green appearance, very smooth and velvety, and with a dense, firm oxide which permits extreme rough handling and bending with little danger of breaking. These sheets are full pickled, full cold rolled, resquared to size, and oiled. They can be stretcher leveled when necessary. Ingot Iron Polished Sheets are very uniform in color across the width and length of the sheet, free from buckles, and possess remarkable working qualities. These sheets are used to a great extent in the manufacture of stoves, bake pans, locomotive jackets and engine lagging. For each of these purposes the corrosion resistance of Ingot Iron and its beautiful finish makes it an ideal material.

Ingot Iron Polished Sheets can be furnished in No. 24 gauge and heavier. Best results are obtained in widths not exceeding 30″. Extreme width 33″.

CASTINGS

The knowledge and skill attained by the Armco organization in the making of high quality Steel Sheets together with excellent foundry and furnace facilities make possible the production of high-grade Open-Hearth Steel Castings.

We are especially well prepared to furnish the following mill type castings up to 60 tons each.

Annealing Covers	Roll Housings
Annealing Bottoms	Spindles
Pinions	Coupling Boxes
Charging Pans	Charging Spoons
Anvil Blocks	Etc.

Our castings are manufactured of clean, dense steel and are very close to specified dimensions.

Pinions, Spindles, etc., can be furnished completely machined.

Formed Products Section

THE American Rolling Mill Company
maintains a factory for the manu-
facture of roofing, siding, conductor pipe
and eaves trough, welded dredge pipe,
small tanks, circles and other formed
products.

The factory is operated as a "Service
to Customers" Department, rather than
a manufacturing industry, and is con-
sidered as a link in the chain of
"QUALITY—SERVICE", which Armco
gives to its customers.

CORRUGATED SHEETS

For Roofing, Siding, Ceiling, Arches, Shutters, Awnings, etc.

Ingot Iron Sheets, Galvanized and Corrugated, not only impart great strength to the building to which they are applied, but are unequaled in Rust Resisting Quality.

For roofing, we recommend sheets 27½″ wide after corrugating which allows for 1½ corrugations lap. The result in using this style will be greater strength and security against leakage.

For siding, ceiling, arches and awnings 26″ wide after corrugating allowing a lap of one corrugation is sufficient.

We do not recommend corrugated sheets for roofing where the pitch is less than one-quarter and, unless otherwise specified, we shall figure on 27½″ finished for roofing requirements.

To apply corrugated roofing, begin by laying from the end opposite that exposed to the general wind direction. That is if the general wind direction is toward the left end of the building start laying the roof at the right end. This will prevent the wind from having an opportunity to drive under the laps. Allow one corrugation of the first sheet to project over the gable end roof boards, and at least 3 inches projection over the eaves. Hammer the projecting corrugation down over the gable end roof boards and nail it closely. Nail through the top of every other corrugation at the eaves. Do not nail except at sides and ends of sheets. The second sheet should be lapped 1½ corrugations over the first and nailed at intervals of eight inches through the top of lap. In laying the second row of sheets, the ends should lap over the first row not less than three inches. Some roofers use a light cementing compound or paint between end laps. This is a good plan as it prevents wind from driving rain in and acts as security against backing up of snow and ice. Use care to preserve straight lines. For light gauges, such as No. 26 and No. 28 use close sheathing. For the heavier gauges sheathing may be dispensed with and purlins used.

It requires about one-half pound of nails and one-quarter pound of lead washers to properly lay one square of corrugated roofing.

When metal roofs have a conductive connection with the ground, the best possible protection against lightning is afforded.

"ARMCO" INGOT IRON

CORRUGATED SHEETS

DIFFERENT SIZES WE MANUFACTURE FOR GENERAL BUILDING PURPOSES

2½" Corrugated Roofing and Siding Sheets

Both Lips Down...................26" Wide after—10 Corrugations
1 Lip Down—1 Up................27½" Wide after—10½ Corrugations

Regular stock sheets for siding are 26 inches wide, and can be furnished in 5, 6, 7, 8, 9 and 10 foot lengths, and from No. 28 to No. 16 gauge.

For roofing we furnish and recommend 2½ inch corrugated 27½ inch wide after corrugating, this allows for one and one-half corrugation lap with 24 inch covering width.

We carry this in stock galvanized in all standard even lengths, gauges 26, 24, 22 and 20.   3 inch corrugated sheets supplied in all even stock lengths, 26 inches wide.   Other lengths and widths rolled to order.
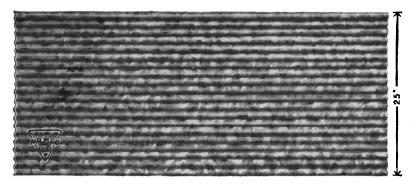
One of the great advantages of corrugated roofing and siding is its ease of application to skeleton framing, thus making it a low cost, yet durable and effective construction.

We recommend that end laps on siding should be from 2-inch to 3-inch and on roofing from 3-inch to 6-inch depending on the pitch.

SHEETS 12 FEET LONG CAN BE FURNISHED AT 10 CENTS PER SQUARE ADDITIONAL, THEREBY OFTEN SAVING LAPPAGE AND LABOR.

"ARMCO" INGOT IRON
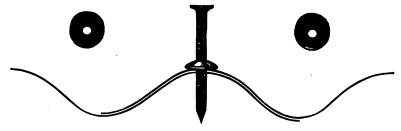
CORRUGATED SHEETS

1¼-inch Corrugated Sheet.   20 Corrugations.   Both Lips Down
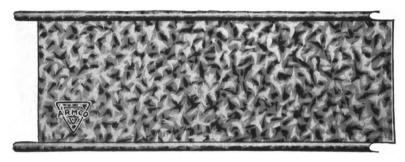
Regular stock sheets are 25 inches wide, cover 24 inches from center to center of outside corrugations, and can be furnished in 5, 6, 7, 8, 9, and 10 foot lengths, No. 22 gauge and lighter.

This size can be used the same as 2½″ corrugated sheets. When used for roofing we recommend the 27 inch wide sheets, thus allowing for laps of 1½ corrugations, and covering width of 25 inches. It is particularly adapted for interior siding, for ceiling large store-rooms and warehouses, and for exterior siding, being stiffer than 2½ inch corrugations.

Illustrating Use of Lead Washers and where to nail Corrugated Sheets

"ARMCO" INGOT IRON

PRESSED STANDING SEAM ROOFING

MADE OF INGOT IRON GALVANIZED SHEETS

Standing Seam Roofing

Straight Cleat shipped ready to apply Standing Seam Roofing

Our Standing Seam Roofing, shown above, has all the qualities necessary to make a perfect roof. It is so constructed as to make a water-tight joint. It can be cheaply and easily applied, and can be fitted around angles, valleys, and openings without unnecessary waste. The nails are not driven through the roofing sheets, but through the cleats underneath the sheets. It is very strong, and can not be blown off, and its construction provides for expansion and contraction.
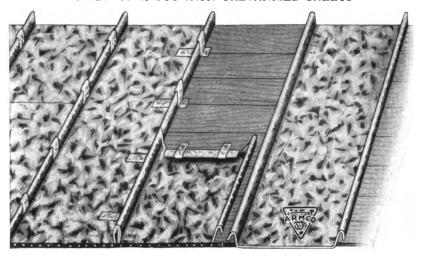
Regular stock sheets of No. 28 and 26 gauge are 24 inches wide, and from 5 to 10 feet in length. 24 and 22 gauge are supplied 25½" wide. 12 foot lengths at 10 cents per square additional.

This style of roofing can be taken off and reapplied, with simply the loss of the cleats. If this is to be done, write for suggestions.

We recommend it on buildings having two inches or more pitch to the foot.

"ARMCO" INGOT IRON

PRESSED STANDING SEAM ROOFING
SELF-CAPPING
MADE OF INGOT IRON GALVANIZED SHEETS

DIRECTIONS FOR LAYING PRESSED STANDING SEAM ROOFING

Snip and turn the end locks with the Jointer and bend upper end of the sheet up and the lower end down. Commence at the lower right hand corner, hold the sheet so the widest standing seam or lip is at the right hand side, flatten out the wide standing seam, bend it over and nail to the edge of sheathing, or if Fire Wall, turn the sheet up 4 to 6 inches, nail securely and counter flash.

Straighten the lower end lock so as to allow same to be nailed to edge of sheeting, this represents the starting sheet, applied.

Now apply cleats to the sheathing, 2 at the upper lock end and one every 12 or 14 inches on the side seam, then continue your course up to the comb of the roof, allowing the sheets to project one inch over the comb of the roof on one side and two inches on the other.
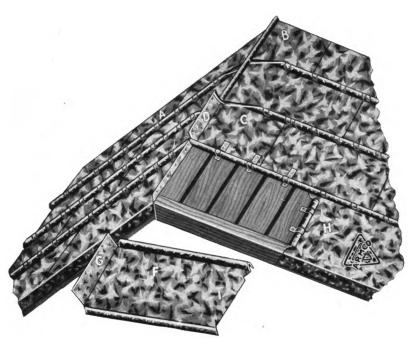
Straighten up, fold the higher over the lower and form seam with squeezing tongs. Or if Ridge Roll is to be applied, it will not be necessary to fold over end, making a Standing Seam.

Start the second course with the piece, if any, left over from the first course, allowing the flange to over lap first course Standing Seam. Press it down and turn the ends of the cleats over, then press seam together with the tongs.

It is best to start second course with a different length sheet than the first in order to break joints. This is the rule when end locking the sheets.

Some simply end lap this roofing and run cross joints parallel with each other, but this is not good practice.

"ARMCO" INGOT IRON

PRESSED STANDING SEAM ROOFING
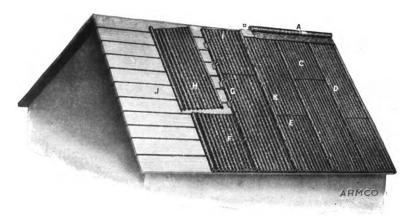
Standing Seam Roofing laid on a Gable Roof using Straight Cleats

Figure explains the method of laying Standing Seam Roofing on a gable roof, and the manner of forming the comb without the use of a special combing cap; also method of fastening edges at sides of roof.

A shows side of roof completed.   B-Ridge or comb as it appears when completed.   C—standing seam hammered down to form into comb.   D—extreme end of sheet, having two inches turned up to form comb.   E—upper end of sheet on opposite side turned up one inch; over this is folded one inch of the sheet on the opposite side, as in D.   The folding of the end of sheet over the opposite one forms a solid ridge cap from the roofing sheets, and only requires a little careful and patient work to accomplish it.   F—shows sheet formed ready to place in position on roof.   H—end cleats in position at end joint of lower sheet.   I—end joint formed on lower end of sheet ready to hook into upper joint of sheet H.

"ARMCO" INGOT IRON

CORRUGATED SHEETS, SUPPLIED WITH PRESSED STANDING SEAM EDGES
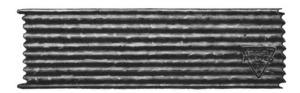
Pressed Standing Seam Corrugated Roofing Laid

A—Combing Cap.　B—Wood Filler.　C—Roof Finished. D—Standing Seam, finished.　E—Cross-Joint nailed.　F—Sheet in place, cleat turned, and seam squeezed.　G—Cleats in place at side of sheets.　H—Sheet ready to put in place to finish course. J—Sheathing Strips.
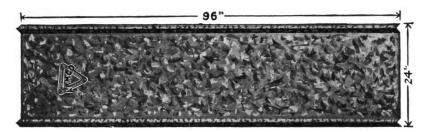
Mode of Finishing Standing Seam when laid as Roofing
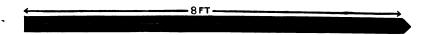
Shows Corrugated Iron supplied with Standing Seam

"ARMCO" INGOT IRON

THREE V-CRIMP ROOFING

MADE OF INGOT IRON GALVANIZED SHEETS

V-Crimp Roofing with Three Crimps or Center Crimp
This style is never shipped unless specially ordered

Regular stock sheets are 25 inches wide, and can be furnished in 5, 6, 7, 8, 9 and 10 ft. lengths.   Gauges 28 to 22 in galvanized.

V-Crimp Roofing, with Center Crimp, makes a very stiff sheet, and is preferred by some, as it breaks the flat appearance of the sheets.
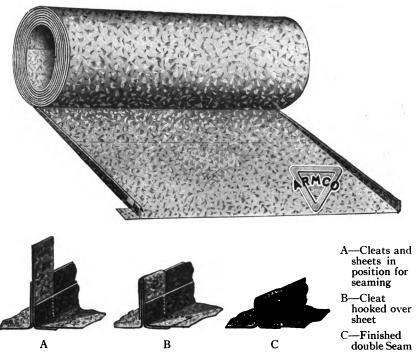
We recommend its use where rafters are not over 10 feet, and no ends laps are required, as it is not advisable to simply lap the ends of the sheets, and it is difficult to make two small end joints on every sheet. *We do not furnish sticks for center crimp unless specially ordered.*

[Cut shows where to Nail V-Crimp Roofing]

We can furnish Roofing Sheets in 12 foot lengths in Gauges listed above at an additional cost.

"ARMCO" INGOT IRON
4-X GRADE DOUBLE CROSS-LOCK ROLL ROOFING
MADE OF INGOT IRON GALVANIZED SHEETS

A—Cleats and sheets in position for seaming

B—Cleat hooked over sheet

C—Finished double Seam

A   B   C

This style roofing is especially adapted to roofs having less than two inches pitch to the foot, and is used successfully where only one inch fall is given.

Each roll as shipped contains 50 lineal feet, 2 feet wide after the sheets are seamed together. These rolls are made up of 5 re-squared sheets 26½″ wide, 122 inches long, swedged together, being locked by a power swedger that makes a very close and neat joint.

This method of laying is very simple, and makes a perfect roof when completed. We do not rivet or countersink our caps, but allow for expansion and contraction in our metal cleat fastening.

This is a very desirable roofing where buildings have the roof pitch one way only, with a slight fall and long courses.

We can furnish Roll Roofing with either single or double cross lock.
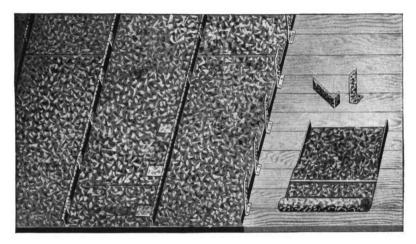
Gauges 28 and 26.

Never give a roof less than one inch fall to the foot.

"ARMCO" INGOT IRON

ROLL AND CAP ROOFING

MADE OF INGOT IRON GALVANIZED SHEETS

How Roll and Cap Roofing is applied

This cut illustrates the method of laying Roll and Cap Roofing on a shed roof. Cut rolls into strips to suit length of rafters, allowing one inch both at eave and comb to fasten.

(A) shows finished seam. (B) shows edge of sheets turned up to form seam, with cleats placed in position and nailed to sheathing. (C) shows sheet with edges turned up and ready to place against sheet (B). (D) shows manner of fastening sheets at eave. After sheet (C) is placed against sheet (B), the cap is dropped over single edge of each, then the long end of cleat is turned over cap, and all are squeezed up together with tongs.

"ARMCO" INGOT IRON
CURVED CORRUGATED SHEETS
BLACK AND GALVANIZED
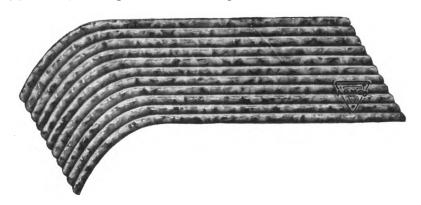
Corrugated Sheet curved for Roofing

These sheets can be curved to any radius desired within bending capacity of the material.

We curve them to specifications required, and pay particular attention to exactness. We can furnish curved sheets in either 2½″ or 1¼″ corrugations, and in lengths from 5 to 12 feet.

Corrugated Sheets curved at one end for Permanent Awning. Can also be used for shed or porch roofs. Sheets can be furnished in any stock length up to 12 feet.

"ARMCO" INGOT IRON

CURVED CORRUGATED SHEETS

BLACK AND GALVANIZED

Corrugated Sheet curved at both ends for Ventilators, Verandas or Awnings

A section of Corrugated Iron Arch for fire-proof buildings, in which our
Corrugated Curved Sheets are used

In fire-proof buildings these arches form a fine ceiling below and a foundation for the floor above.   For strength, lightness, durability and fire-proof qualities, they can not be excelled.

The strength depends, of course, on gauge of iron used and also on amount of rise given.   Where a very slight rise is necessary, particular attention should be given to gauge used.

We make these from plans and specifications furnished, and guarantee them to fit according to working plans.

CONDUCTOR PIPE MADE OF GALVANIZED INGOT IRON

Gauges 28 to 24

PLAIN ROUND CONDUCTOR PIPE

In the following sizes:
2″, 2½″, 3″, 3½″, 4″, 5″, 6″

ROUND CORRUGATED CONDUCTOR PIPE

In the following sizes:
2″, 3″, 4″, 5″, 6″

SQUARE CORRUGATED CONDUCTOR PIPE

In the following sizes:

What is commonly known as	Actual Dimension
2 inch	1¾″ x 2¼″
3 inch	2⅜″ x 3¼″
4 inch	2¾″ x 4¼″
5 inch	3¾″ x 5″

POLYGON CONDUCTOR PIPE

In the following sizes:
2″, 3″, 4″, 5″, 6″
The 2″ size not made heavier than 26 gauge.

LAP JOINT EAVES TROUGH MADE OF GALVANIZED "ARMCO" INGOT IRON SHEETS

A PERFECT AND UNIFORM EAVES TROUGH

Made in ten (10) foot lengths.   Gauges 28 to 24.

SIZES

3 inch	4 inch	5 inch	7 inch	9 inch
3½ inch	4½ inch	6 inch	8 inch	10 inch

3 inch to 6 inch inclusive, 1½ inch bead.

7 inch to 10 inch, ⅞ inch bead.

Packed in cases of 250 feet.

SLIP JOINT EAVES TROUGH

MADE OF GALVANIZED "ARMCO" INGOT IRON SHEETS

GAUGES 28 AND 26

Made in 10 ft. lengths, sections without seams, right hand and left hand.

The slip joints are guaranteed to go together easily, and this style is a very convenient one to hang.

Sizes are taken inside of bead.

SIZES IN TEN FOOT LENGTHS

3 inch	4 inch	5 inch	7 inch	9 inch
3½ inch	4½ inch	6 inch	8 inch	10 inch

3 inch to 6 inch inclusive, ½ inch bead.   7 inch to 10 inch, ⅞ inch bead.   A crate of Trough contains 25 full length pieces, half right and half left unless otherwise ordered.

ALWAYS STATE WHETHER RIGHT OR LEFT IS WANTED, OTHERWISE HALF RIGHT AND HALF LEFT WILL BE SHIPPED.

DOUBLE BEAD EAVES TROUGH

EITHER LAP OR SLIP JOINT, MADE FROM GALVANIZED "ARMCO" INGOT IRON SHEETS

SIZES:

28, 26, 24 Gauge in Lap Joint and 28 and 26 in Slip Joint.

3 inch	4 inch	5 inch	7 inch	9 inch
3½ inch	4½ inch	6 inch	8 inch	10 inch

3 inch to 6 inch, ½ inch beads.   7 inch to 10 inch, ⅝″ beads.

Double Bead Trough, with either Lap or Slip Joint, is always RIGHT and LEFT within itself.

A crate of this Trough consists of 25 full length pieces.

OCTAGON CONDUCTOR PIPE

MADE FROM GALVANIZED "ARMCO" INGOT IRON SHEETS

This style of Conductor Pipe is manufactured exclusively by us.   Gauges 28 to 24.

The sharp Concave Corrugation makes a very handsome effect.   Contraction and expansion are also well provided for in this pipe.

SIZES:

2 inch Octagon Pipe

3 inch Octagon Pipe

4 inch Octagon Pipe

5 inch Octagon Pipe

6 inch Octagon Pipe

We can furnish Elbows and Shoes to fit this Pipe perfectly.

"ARMCO" INGOT IRON

GALVANIZED RIDGE ROLL

PLAIN RIDGE ROLL

Gauges 28 to 20

SIZES:

Roll	Girt	Width of Apron
1¼ inch	7 inch	2 inch
1½ inch	8 inch	2¼ inch
2 inch	10 inch	2⅝ inch
2½ inch	12 inch	3 inch
3 inch	15 inch	4 inch
3 inch	18 inch	6 inch

Made in standard 10 feet lengths.

V-RIDGE CAP

Gauges 28 to 24

6 inch girt
7 inch girt
8 inch girt
10 inch girt
12 inch girt

"ARMCO" INGOT IRON

ROOF GUTTERS

MADE OF 28 TO 24 GAUGE GALVANIZED INGOT IRON IN 10 FOOT LENGTHS

The nails used in fastening are not exposed.   No wooden supports needed. In ordering always specify exact pitch of roof.

Style A in Position   Style B in position

Style A

SIZES:
14 inch Girt, ⅝ inch Bead
20 inch Girt, ⅝ inch Bead
24 inch Girt, ⅝ inch Bead

Style B

SIZES:
15 inch Girt, ⅝ inch Bead
20 inch Girt, ⅝ inch Bead
24 inch Girt, ⅝ inch Bead

"ARMCO" INGOT IRON
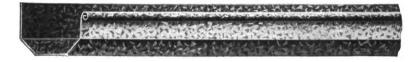
BOX AND O. G. GUTTERS

MADE IN 10 FOOT LENGTHS OF GALVANIZED INGOT IRON

Gauges 28 to 24

Backs of Trough same height as Bead End unless otherwise specified.
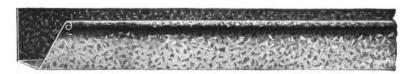
BOX GUTTER, STYLE C

SIZES:

Size	5 inches	6 inches	7 inches
Depth	3½ inches	4¼ inches	4½ inches
Girt	12 inches	14 inches	16 inches

BOX GUTTER STYLE D

Size	6 inches	7 inches	8 inches
Depth	4 inches	5 inches	5¾ inches
Girt	15 inches	18 inches	20 inches

O. G. GUTTER, STYLE E

Size	6 inches	7 inches	8 inches
Depth	4½ inches	5½ inches	7 inches
Girt	15 inches	18 inches	22 inches

We can make any special style or size of O. G. Gutter to order.

"ARMCO" INGOT IRON
BOX AND O. G. GUTTERS
Gauges 28 to 24
Backs of Trough same height as Bead End unless otherwise specified.
BOX GUTTER, STYLE F

Size	6 inches	7 inches	8 inches
Depth	5½ inches	6 inches	6 inches
Girt	18 inches	20 inches	22 inches

O. G. CUTTER, STYLE G

Size	6 inches	7 inches	8 inches
Depth	5½ inches	6½ inches	7 inches
Girt	18 inches	20 inches	22 inches

O. G. GUTTER, STYLE H

Size	6 inches	7 inches	8 inches
Depth	4 inches	4¾ inches	5½ inches
Girt	14 inches	16 inches	18 inches

O. G. GUTTER, STYLE J

Size	6 inches	7 inches	9 inches
Depth	5¾ inches	6½ inches	8 inches
Girt	18 inches	20 inches	24 inches
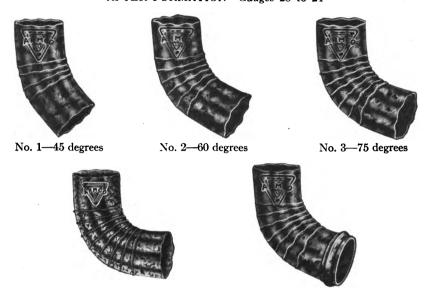
WE CAN FURNISH O. G. GUTTER WITH RIVETED STAYS AND STRAPS TO HANG SO THAT NO EXTRA HANGERS ARE NEEDED, AT THE USUAL EXTRA.
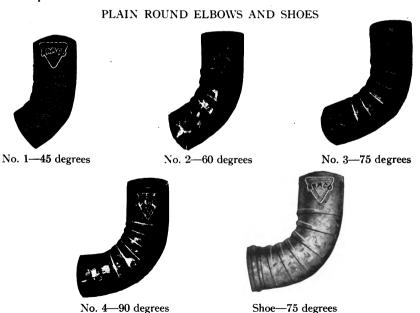
"ARMCO" INGOT IRON
CORRUGATED ELBOWS AND SHOES, GALVANIZED
AFTER FORMATION—Gauges 28 to 24

No. 1—45 degrees   No. 2—60 degrees   No. 3—75 degrees

No. 4—90 degrees   Shoe—75 degrees

The above cuts represent 4 inch Elbows and Shoe, and show the exact number of crimps in each NUMBER of that size.

PLAIN ROUND ELBOWS AND SHOES

No. 1—45 degrees   No. 2—60 degrees   No. 3—75 degrees

No. 4—90 degrees   Shoe—75 degrees

The above cuts show exact number of crimps in 3 inch Elbows.   Order Elbows and Shoes by Size and Number.

"ARMCO" INGOT IRON FLAT CRIMP OCTAGON
GALVANIZED ELBOWS

Elbow   Shoe

Made in four Angles

These elbows are made to match and fit Octagon Pipe perfectly, and are sold at same price as ordinary, plain round or corrugated elbows.

GALVANIZED, CORRUGATED OR PLAIN ROUND
ELBOWS AND SHOES

Gauges 28 to 24

SIZES:

2 inch, Corrugated or Plain Round
3 inch, Corrugated or Plain Round
4 inch, Corrugated or Plain Round
5 inch, Corrugated or Plain Round
6 inch, Corrugated or Plain Round

SQUARE CORRUGATED GALVANIZED ELBOWS

No. 3—75 degrees   No. 3—75 degrees

SIZES:

2 inch
3 inch
4 inch
5 inch
6 inch

Style A, or Ordinary Curve   Style B, or Side Curve

By proper combination of Styles A and B, a square pipe can be made to turn the corner of a building as easily as a round pipe.

ORDER ELBOWS AND SHOES BY SIZE AND NUMBER

"ARMCO" INGOT IRON GALVANIZED POLYGON CONDUCTOR PIPE

See Illustration on Page 147

Sizes—10 foot lengths.   In 2, 3, 4, 5 and 6 inches; 28, 26 and 24 gauge.   The 2 inch size cannot be supplied in heavier than 26 gauge.

Its handsome design combines many distinct advantages over all other kinds.

The concave corrugated twisted form produces great strength and resistance and therefore prevents denting or disfiguring; it also checks the sudden fall of ice, thus protecting joints and seams.

Expansion and contraction are amply provided for in its construction, consequently the pipe will not burst.

To avoid ever recurring repairs to your conductor pipes, use Polygon.   It is *Simple, Durable, Strong and Handsome*, and will outlast other makes.

POLYGON ELBOWS AND SHOES

These Elbows fit and match Polygon Pipe perfectly.

Sizes—2, 3, 4, 5 and 6 inches.   In Galvanized "ARMCO" INGOT IRON.

ORNAMENTAL ELBOWS AND RECEIVERS WHEN USED IN CONNECTION WITH POLYGON PIPE, GREATLY ENHANCE THE ARCHITECTURAL BEAUTY OF HOUSES.

"ARMCO" INGOT IRON

GALVANIZED MITRES

Outside Corner Mitre   Inside Corner Mitre

These Mitres are made complete, ready for use, both inside and outside Bead, either Slip or Lap Joint, Single or Double Bead.

SIZES:

No. 28 to 24 GALVANIZED IRON

LAP JOINT		SLIP JOINT	
3 inch	6 inch	3 inch	6 inch
3½ inch	7 inch	3½ inch	7 inch
4 inch	8 inch	4 inch	8 inch
5 inch		5 inch	

When ordering Slip Joint Mitres state whether right or left hand is wanted, and whether for "inner" or "outer" corner, otherwise half rights and half lefts, and half "inner" and half "outer" corner Mitres will be shipped.

GALVANIZED GUTTER END SECTIONS, SLIP ENDS AND TUBES

A—Shows a Section of Eave Trough, with Tube and End soldered in.   12 inch Section (A complete) furnished in Lap Joint.

B—Shows a Tube or Outlet.

C—Shows Slip Joint End-Piece.   Can be used either right or left.

SIZES:

2 inch	5 inch		
2½ inch	6 inch		
3 inch	7 inch		
3½ inch	8 inch		
4 inch			

Gauges 28 to 24

"ARMCO" INGOT IRON
RAIN WATER CUT-OFFS
CAN BE USED IN ANY POSITION WITHOUT EXTRA PIPE

Plain Round   Corrugated Round   Corrugated Square

Made of Galvanized Ingot Iron, and put up in crates (assorted right and left hand wires) so they may be used in any position without extra pipe or elbows.

Sizes 2″, 3″, 4″, 5″ and 6″.

3 and 4 inch Cut-Offs are packed in crates of 1 dozen each.

5 and 6 inch Cut-Offs are packed in crates of ½ dozen each.

FLANGED GALVANIZED GUTTER HEADS
FOR GUTTER ENDS, SLIP ENDS, ETC.
PERFECTLY FORMED AND READY FOR USE
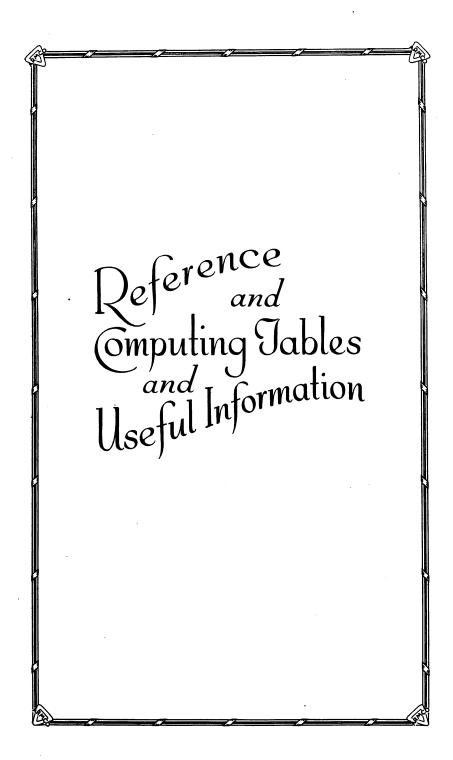
A great convenience for manufacturers of Eaves Trough, jobbers and for tinners.

SIZES

3½ inch Galvanized Heads
4   inch Galvanized Heads
4½ inch Galvanized Heads
5   inch Galvanized Heads
6   inch Galvanized Heads

Packed in boxes containing 250 or 500 each.

Reference
and
Computing Tables
and
Useful Information

STANDARD GAUGE TABLES AND THEIR PRACTICAL
USE WHEN APPLIED TO PRODUCTION UNDER
STANDARD PRACTICE OF "HOT ROLLED
SHEET" MANUFACTURERS

The U. S. Standard Gauge is a WEIGHT GAUGE and is based
on "Wrought Iron", not cold rolled, at the theoretical weight of
.2778 pounds per cubic inch or 480 pounds per cubic foot and the
decimal thicknesses shown are the approximate equivalents.

Hot Rolled Steel has been determined by actual practice to
weigh approximately 2% heavier than the weight shown for wrought
iron in the U. S. Standard Gauge Table.   Therefore, steel weight
is based at .2833 pounds per cubic inch or 489.6 pounds per cubic foot.

Complete tests have proved that iron of the analysis of "ARMCO"
Ingot Iron due to its dense metallic structure weighs approximately
3% heavier than Wrought Iron; therefore, the weight of hot rolled
"ARMCO" Ingot Iron is .2861 pounds per cubic inch or 494.4
pounds per cubic foot.

Cold rolling makes steel or iron sheets more dense, therefore,
"ARMCO" "High Finished" or "Full Cold Rolled" Steel or Ingot
Iron Sheets will weigh about 1% more than Black Sheets or ap-
proximately 4% to 5% heavier than Wrought Iron as shown in the
U. S. Standard Gauge Table.

When the U. S. Standard Gauge was legalized by Congress, $2\frac{1}{2}$%
over or under weight was arbitrarily set as an allowance for variation
in weight.   This allowance was later modified in practice to permit a
variation of $2\frac{1}{2}$% over or under in the per lot weight of sheets No. 17
gauge and lighter, and 5% variation over or under in the per lot
weight of sheets No. 16 gauge and heavier.   However, these allow-
ances cannot be based on weights as shown in the U. S. Standard
Gauge Table and applied to sheets ORDERED BY GAUGE in
steel or Ingot Iron.   These materials will "weigh heavy" and the
"allowance for variation" should be based on their actual weight.

A variation of 1% is recognized between weighings of different
scales on account of varying accuracy of scales, personal equation
in weighing, etc.

TRADE CUSTOMS

The American Rolling Mill Company has not deviated from the regular practice of basing all tables of estimated weights on the U. S. Standard Gauge.   All orders received will be estimated and acknowledged on this basis, however, the right is reserved to manufacture within the practical limits as set forth on page 160 and to settle all claims for allowances on the base of standard practice of Hot Rolled Sheet Manufacturers.

MILL SHEARING

Sheets No. 18 gauge and lighter shall be sheared full to size specified, width not to exceed ½″ and length not to exceed 1¼″ larger than specified.

Sheets No. 16 gauge and heavier shall be sheared full to size, width not to exceed ½″ and length not to exceed 1″ greater than specified.

DEFINITION OF TERMS USED IN IRON AND STEEL SPECIFICATIONS

Tensile Strength or Ultimate Tensile Strength:

The maximum number of pounds necessary to pull apart a test piece or specimen.

Elastic Limit or Yield Point:

The point where the applied stress begins to produce an elongation of permanent character; up to that point the metal will yield slightly but when the stress is released will return to its original length as would a rubber band.   Material should not be stressed beyond this point as it becomes practically dead and unworkable.

Elongation:

The percentage of stretch or elongation from a given length. A test piece 8 inches long is universally accepted as standard for sheets or plates, except in Special Tests.

Reduction of Area:

The percentage of reduction from the original section area of test piece when it is drawn down through the action of pulling apart.

Elongation and Reduction of Area are indications of ductility or workability of the material.

Tests taken from material in the direction transverse from that in which it was rolled will show about the same percentage of elongation but less reduction in area than tests taken in the direction of rolling.

CORRUGATED SHEETS

Made in Ingot Iron Galvanized Sheets. Principal uses are Roofing, Siding, Ceiling, Arches, Shutters and Awnings.
In normal times we attempt to carry a complete stock in all even gauges from No. 28 to No. 10, inclusive.

Size Corrg.	Width Flat	Width Finished	Covering Width	Position of Lips	Depth of Corrugation	Amount of Lap
1¼"	28"	25"	24"	Both lips down	⅜" Scant	1 Corrugated "Standard"
1¼"	30"	27"	24"	1 lip up and 1 lip down	⅜" Scant	1½ Corrugated "Standard"
2½"	26½"	24½"	21"	1 lip up and 1 lip down	½ or ⅝" Approx.	1½ Corrugated
2½"	28"	26"	21½"	1 lip up and 1 lip down	½ or ⅝" Approx.	2 Corrugated
2½"	28"	26"	24"	Both lips down	½ or ⅝" Approx.	1 Corrugated "Standard"
2½"	30"	27½"	25"	1 lip up and 1 lip down	½ or ⅝" Approx.	1 Corrugated "Standard"
2½"	30"	26"	24"	Both lips down	¾" Approx.	1 Corrugated
2½"	36"	33½"	30"	1 lip up and 1 lip down	½" Scant	1½ Corrugated
2½"	38"	35"	31½"	1 lip up and 1 lip down	½" Scant	1½ Corrugated
2½"	38"	34½"	32½"	Both lips down	½" Scant	1½ Corrugated
3"	28"	26"	24"	Both lips down	½" Scant	1 Corrugated
3"	29½"	26"	24"	Both lips down	½" Full	1 Corrugated
3"	34¾"	32"	30"	Both lips down	9/16"	1 Corrugated
3"	36"	32"	30"	Both lips down	¾"	1 Corrugated "Export Standard"
3"	30"	26"	24"	Both lips down	¾"	1 Corrugated "Export Standard"
5"	30"	28"	24"	Both lips down	⅞"	1 Corrugated

8—3" Corrugations = 30" Flat or 26" after corrugating.
10—3" Corrugations = 36" Flat or 32" after corrugating.

NUMBER OF SHEETS IN ONE SQUARE OF ROOFING

Lengths	2 in., 2½ in. and 3 in. Corrugated 27½" wide	2 in., 2½ in. and 3 in. Corrugated 26" wide	1¼ in. and ⅝ in. Corrugated 25" wide	2 and 3 V. C. P. S. S., etc., 24" wide
5 feet	8.72	9.23	9.6	10.
6 feet	7.27	7.69	8.	8.33
7 feet	6.23	6.59	6.86	7.14
8 feet	5.46	5.77	6.	6.25
9 feet	4.85	5.13	5.33	5.55
10 feet	4.36	4.62	4.8	5.
11 feet	3.97	4.2	4.36	4.55
12 feet	3.64	3.84	4.	4.17

We recommend 27½" wide after corrugating for roofing purposes as 1½ corrugations lap insures greater protection against the weather than 1 corrugation.

For siding 1 corrugation lap is sufficient and represents a saving in material.

In addition to corrugated sheets we can furnish $\frac{3}{16}$" crimped both lengthwise and crosswise in No. 22 gauge and lighter, limited to 40" wide crosswise and 144" lengthwise.

WEIGHT PER SQUARE. GALVANIZED ROOFING AND SIDING

BASED ON U. S. STANDARD GAUGE. FOR "ARMCO" INGOT IRON ADD 3%

Style	Flat Width	Formed Width	Gauge									
			28	27	26	25	24	22	20	18	16	14
1¼" Corrugated	28"	25"	88	95	102	116	130	158	186	242	286	353
2½" Corrugated	28"	26"	84	91	98	111	125	151	178	232	289	358
2½" Corrugated	30"	27½"	85	92	99	113	126	153	180	235	288	355
2½" Corrugated	32½"	30"	85	91	98	112	125	152	179	234	288	355
3" Corrugated	28"	26"	84	91	98	112	125	152	178	232		
2V Crimp	26½"	24"	86	93	100	114	128	155	183			
3V Crimp	27¼"	24"	89	97	103	117	131	160	188			
3V Crimp	28"	25"	88	95	102	116	130	158	186			
5V Crimp	28"	23½"	93	101	108	123	138					
Pressed Standing Seam	26½"	24"	86	93	100	114	128	155	183			
Pressed Standing Seam	28"	25½"	86	93	99	113	127	154	182			
Weather Board	28"	24"	91	98	106	120	135					
Beaded Ceiling	26½"	24"	86	93	100	114	128					
Roll Roofing	26½"	24"	88	95	102	116	130					
Roll and Cap Roofing with Caps and Cleats	26"	24"	93	100	108	122	137					
Plain Brick Siding			78	84	91							
Rock Face Brick Siding			78	84	91							
Rock Face Stone Siding			78	84	91							

AVERAGE WEIGHT OF VARIOUS ROOFING MATERIALS

Material		Weight per square foot—pounds
Corrugated Galvanized Sheets	Without Sheathing	2¼
Copper 16 oz. Standing Seam	Without Sheathing	1¼
Felt and Asphalt	Without Sheathing	2
Glass—⅛″ thick		2
Lead—about ⅛″ thick		6 to 8
Mackite—1″ thick with plaster		10
Neponset Roofing, felt—2 layers	Without Sheathing	½
Shingles—6 x 18—one-third weather	Without Sheathing	2
Skylights of Glass, $\frac{3}{16}$″ to ½″ inc. frame		4 to 10
Slag Roof, 4-ply	Without Sheathing	4
Slate ⅛″ thick, 3 inch double lap	Without Sheathing	4½
Slate $\frac{3}{16}$″ thick double lap	Without Sheathing	6¾
Terne Plate I C	Without Sheathing	½ to ⅝
Terne Plate I X	Without Sheathing	⅝ to ¾
Tiles (plain) 10½ x 6¼ x ⅝—5¼″ to weather	Without Sheathing	18
Tiles (Spanish) 14½ x 10½—7¼″ to weather	Without Sheathing	8½
SHEATHING—1 INCH THICK		
Hemlock		2½
Spruce		2¼
White Pine		2¼
Yellow Pine		3½

U. S. STANDARD GAUGE FOR ALL UNCOATED SHEETS BASED ON THEORETICAL WEIGHT OF WROUGHT IRON AT .2778 POUNDS PER CUBIC INCH

Number of Gauge	Thickness in Fractions of an Inch Approx.	Thickness in Decimal Parts of an Inch Approx.	Thickness in Millimeter Approx.	Weight Per Sq. Foot, Ounces	Weight Per Sq. Foot, Pounds	Weight Per Sq. Foot, Kilogr.	Weight Per Sq. Metre, Kilogr.	Weight Per Sq. Metre, Pounds	WEIGHT IN POUNDS Based on Actual Practice in Hot Rolled Sheets at .2833 per Cubic Inch — Sq. Foot	Sq. Metre
0000000	1-2	.5000	12.7	320	20.	9.072	97.65	215.28	20.40	219.59
000000	15-32	.4688	11.906	300	18.75	8.505	91.55	201.82	19.125	205.86
00000	7-16	.4375	11.113	280	17.50	7.938	85.44	188.37	17.85	192.14
0000	13-32	.4063	10.319	260	16.25	7.371	79.33	174.91	16.58	178.41
000	3-8	.3750	9.525	240	15.	6.804	73.24	161.46	15.30	164.69
00	11-32	.3438	8.731	220	13.75	6.237	67.13	148.00	14.03	150.96
0	5-16	.3125	7.938	200	12.50	5.670	61.03	134.55	12.75	137.24
1	9-32	.2813	7.144	180	11.25	5.103	54.93	121.09	11.48	123.51
2	17-64	.2656	6.747	170	10.63	4.820	51.88	114.37	10.84	116.66
3	1-4	.2500	6.350	160	10.	4.536	48.82	107.64	10.20	109.79
4	15-64	.2344	5.953	150	9.375	4.253	45.77	100.91	9.56	102.93
5	7-32	.2188	5.556	140	8.750	3.969	42.72	94.18	8.93	96.06
6	13-64	.2031	5.159	130	8.125	3.686	39.67	87.45	8.288	89.20
7	3-16	.1875	4.762	120	7.500	3.402	36.62	80.72	7.66	82.33
8	11-64	.1719	4.366	110	6.875	3.119	33.57	74.00	7.013	75.48
9	5-32	.1563	3.969	100	6.250	2.835	30.52	67.27	6.375	68.62
10	9-64	.1406	3.572	90	5.625	2.552	27.46	60.55	5.738	61.76
11	1-8	.1250	3.175	80	5.000	2.268	24.41	53.82	5.10	54.90
12	7-64	.1094	2.778	70	4.375	1.985	21.36	47.09	4.463	48.03
13	3-32	.0938	2.381	60	3.750	1.701	18.31	40.36	3.825	41.17
14	5-64	.0781	1.984	50	3.125	1.418	15.26	33.64	3.188	34.31
15	9-128	.0703	1.786	45	2.813	1.276	13.73	30.27	2.869	30.88
16	1-16	.0625	1.588	40	2.500	1.134	12.21	26.91	2.55	27.45
17	9-160	.0563	1.429	36	2.250	1.020	10.99	24.22	2.295	24.70
18	1-20	.0500	1.270	32	2.000	.907	9.77	21.53	2.04	21.96
19	7-160	.0438	1.111	28	1.750	.794	8.54	18.84	1.785	19.22
20	3-80	.0375	.953	24	1.500	.680	7.32	16.50	1.53	16.47
21	11-320	.0344	.873	22	1.375	.624	6.71	14.80	1.403	15.10
22	1-32	.0312	.794	20	1.250	.567	6.10	13.46	1.275	13.73
23	9-320	.0281	.714	18	1.125	.510	5.49	12.11	1.148	12.35
24	1-40	.0250	.635	16	1.000	.454	4.88	10.76	1.02	10.97
25	7-320	.0219	.556	14	.875	.397	4.27	9.42	.892	9.61
26	3-160	.0188	.476	12	.750	.340	3.66	8.07	.765	8.23
27	11-640	.0172	.437	11	.687	.312	3.36	7.40	.694	7.55
28	1-64	.0156	.397	10	.625	.284	3.05	6.73	.638	6.86
29	9-640	.0140	.357	9	.563	.255	2.75	6.05	.574	6.17
30	1-80	.0125	.318	8	.500	.227	2.44	5.38	.510	5.49

Birmingham Gauge as Legalized by Order of the British Council, July 16, 1914, and made effective November 14, 1914.

Based on Theoretical Weight of Wrought Iron of .2778 lbs. per cubic inch recognized as Standard by U. S. Congressional Enactment.

No. Gauge	Approx. Thickness, Black	Wt. per Sq. Ft. Lbs., Black	Wt. per Sq. Ft. Ounces, Black	Wt. per Sq. Ft. Lbs., Galvanized	Wt. per Sq. Ft. Ounces, Galvanized
00000	.5883	23.53	376.51	. . . . .	. . . . .
0000	.5416	21.66	346.62	. . . . .	. . . . .
000	.5000	20.00	320.00	. . . . .	. . . . .
00	.4452	17.81	284.93	. . . . .	. . . . .
0	.3964	15.86	253.70	. . . . .	. . . . .
1	.3532	14.13	226.05	. . . . .	. . . . .
2	.3147	12.59	201.41	. . . . .	. . . . .
3	.2804	11.22	179.46	. . . . .	. . . . .
4	.2500	10.00	160.00	. . . . .	. . . . .
5	.2225	8.90	142.40	. . . . .	. . . . .
6	.1981	7.92	126.78	. . . . .	. . . . .
7	.1764	7.06	112.90	. . . . .	. . . . .
8	.1570	6.28	100.48	. . . . .	. . . . .
9	.1398	5.59	89.47	. . . . .	. . . . .
10	.1250	5.00	80.00	5.156	82.50
11	.1113	4.45	71.20	4.606	73.70
12	.0991	3.96	63.36	4.116	65.86
13	.0882	3.52	56.32	3.676	58.82
14	.0785	3.14	50.24	3.296	52.74
15	.0699	2.79	44.64	2.946	47.14
16	.0625	2.50	40.00	2.656	42.50
17	.0556	2.22	35.52	2.376	38.02
18	.0495	1.98	31.68	2.136	34.18
19	.0440	1.76	28.16	1.916	30.66
20	.0392	1.56	24.96	1.716	27.46
21	.0349	1.39	22.24	1.546	24.74
22	.03125	1.25	20.00	1.406	22.50
23	.02782	1.11	17.76	1.266	20.26
24	.02476	.99	15.84	1.146	18.34
25	.02204	.88	14.08	1.036	16.58
26	.01961	.78	12.48	.936	14.98
27	.01745	.69	11.04	.846	13.54
28	.015625	.62	9.92	.776	12.42
29	.0139	.55	8.80	.706	11.30
30	.0123	.50	8.00	.656	10.50

Sheets and plates heavier than 10 ga. cannot be galvanized by us but some manufacturers are in position to do so.

However, their process is that known as "Hand Dipped" and as the amount of coating obtained in this manner is uncertain the weights are not shown.

A COMPARISON OF MOST FREQUENTLY USED GAUGE TABLES, showing decimal thickness and weight per square foot of Sheet Metal.   Weights are based on theoretical weight of wrought iron at .2778 lbs. per cubic inch as recognized as Standard by U. S. Congressional Enactment and theoretical weight of Hot Rolled Sheets as determined by actual practice at .2833 lbs. per cubic inch.

U. S. Standard Gauge	British Imperial or English Standard	Birmingham Wire Gauge (B. W. G.)	Birmingham Gauge (B. G.)	Brown & Sharp's (B. & S.)	Thickness in decimal parts of an inch	Weight per sq. ft. in lbs.	
						Wrought Iron	Hot Rolled Sheets
0000000	0000000	......	000	......	.5000	20.00	20.40
000000	......	......	......	......	.4688	18.75	19.125
......	000000	......	......	......	.4640	18.56	18.93
......	......	......	......	0000	.4600	18.46	18.70
......	......	0000	......	......	.4540	18.16	18.52
......	......	......	00	......	.4452	17.81	18.16
00000	......	......	......	......	.4375	17.50	17.85
......	00000	......	......	......	.4320	17.28	17.626
......	......	000	......	......	.4250	17.00	17.34
......	......	......	......	000	.4096	16.44	16.66
0000	......	......	......	......	.4063	16.25	16.575
......	0000	......	......	......	.4000	16.00	16.32
......	......	......	0	......	.3964	15.86	16.17
......	......	00	......	......	.3800	15.20	15.50
000	......	......	......	......	.3750	15.00	15.30
......	000	......	......	......	.3720	14.88	15.178
......	......	......	......	00	.3648	14.64	14.83
......	......	......	1	......	.3532	14.13	14.41
......	00	......	......	......	.3480	13.92	14.198
00	......	......	......	......	.3438	13.75	14.025
......	......	0	......	......	.3400	13.60	13.87
......	......	......	......	0	.3250	13.00	13.26
......	0	......	......	......	.3240	12.96	13.22
......	......	......	2	......	.3147	12.59	12.84
0	......	......	......	......	.3125	12.50	12.75
......	1	1	......	......	.3000	12.00	12.24
......	......	......	......	1	.2893	11.61	11.76
......	......	2	......	......	.2840	11.36	11.59
1	......	......	......	......	.2813	11.25	11.475
......	......	......	3	......	.2804	11.22	11.44
......	2	......	......	......	.2760	11.04	11.261
2	......	......	......	......	.2656	10.63	10.84
......	......	3	......	......	.2600	10.40	10.61
......	......	......	......	2	.2576	10.34	10.48
......	3	......	......	......	.2520	10.08	10.282
3	......	......	4	......	.2500	10.00	10.20
......	......	4	......	......	.2380	9.52	9.71
4	......	......	......	......	.2344	9.38	9.56
......	4	......	......	......	.2320	9.28	9.466
......	......	......	......	3	.2294	9.21	9.33
......	......	......	5	......	.2225	8.90	9.08
......	......	5	......	......	.2200	8.80	8.976
5	......	......	......	......	.2188	8.75	8.925
......	5	......	......	......	.2120	8.48	8.65
......	......	......	......	4	.2043	8.20	8.31
6	......	......	......	......	.2031	8.125	8.287
......	......	6	......	......	.2030	8.12	8.282
......	......	......	6	......	.1981	7.924	8.082
......	6	......	......	......	.1920	7.68	7.834
7	......	......	......	......	.1875	7.50	7.65

GAUGE TABLE—Continued

U. S. Standard Gauge	British Imperial or English Standard	Birmingham Wire Gauge (B. W. G.)	Birmingham Gauge (B. G.)	Brown & Sharp's (B. & S.)	Thickness in decimal parts of an inch	Weight per sq. ft. in lbs.	
						Wrought Iron	Hot Rolled Sheets
......	......	......	......	5	.1819	7.30	7.40
......	......	7	......	......	.1800	7.20	7.344
......	......	......	7	......	.1764	7.056	7.19
......	7	......	......	......	.1760	7.04	7.181
8	......	......	......	......	.1719	6.875	7.012
......	......	8	......	......	.1650	6.60	6.732
......	......	......	......	6	.1620	6.50	6.63
......	8	......	......	......	.1600	6.40	6.528
......	......	......	8	......	.1570	6.28	6.40
9	......	......	......	......	.1563	6.25	6.375
......	......	9	......	......	.1480	5.92	6.038
......	......	......	......	7	.1443	5.79	5.87
......	9	......	......	......	.1440	5.76	5.875
10	......	......	......	......	.1406	5.625	5.737
......	......	......	9	......	.1398	5.592	5.703
......	......	10	......	......	.1350	5.40	5.508
......	......	......	......	8	.1285	5.16	5.263
......	10	......	......	......	.1280	5.12	5.22
11	......	......	10	......	.1250	5.00	5.10
......	......	11	......	......	.1200	4.80	4.896
......	11	......	......	......	.1160	4.64	4.733
......	......	......	......	9	.1144	4.59	4.65
......	......	......	11	......	.1113	4.45	4.539
12	......	......	......	......	.1094	4.375	4.462
......	......	12	......	......	.1090	4.36	4.447
......	12	......	......	......	.1040	4.16	4.243
......	......	......	......	10	.1019	4.09	4.14
......	......	......	12	......	.0991	3.96	4.039
......	......	13	......	......	.0950	3.80	3.876
13	......	......	......	......	.0938	3.75	3.825
......	13	......	......	......	.0920	3.68	3.754
......	......	......	......	11	.0907	3.64	3.69
......	......	......	13	......	.0882	3.52	3.56
......	......	14	......	......	.0830	3.32	3.386
......	......	......	......	12	.0808	3.24	3.29
......	14	......	......	......	.0800	3.20	3.264
......	......	......	14	......	.0785	3.14	3.20
14	......	......	......	......	.0781	3.125	3.187
......	15	15	......	13	.0720	2.89	2.93
15	......	......	......	......	.0703	2.813	2.869
......	......	......	15	......	.0699	2.79	2.84
......	......	16	......	......	.0650	2.60	2.652
......	......	......	......	14	.0641	2.57	2.61
......	16	......	......	......	.0640	2.56	2.61
16	......	......	16	......	.0625	2.50	2.55
......	......	17	......	......	.0580	2.32	2.366
......	......	......	......	15	.0571	2.29	2.32
17	......	......	......	......	.0563	2.25	2.295
......	......	......	17	......	.0556	2.22	2.26
......	......	......	......	16	.0508	2.03	2.07
18	......	18	......	......	.0500	2.00	2.04
......	......	......	18	......	.0495	1.98	2.02
......	18	......	......	......	.0480	1.92	1.958
......	......	......	......	17	.0453	1.82	1.84
......	......	......	19	......	.0440	1.76	1.79
19	......	......	......	......	.0438	1.75	1.785

GAUGE TABLE—Continued

U. S. Standard Gauge	British Imperial or English Standard	Birmingham Wire Gauge (B. W. G.)	Birmingham Gauge (B. G.)	Brown & Sharp's (B. & S.)	Thickness in decimal parts of an inch	Weight per sq. ft. in lbs.	
						Wrought Iron	Hot Rolled Sheets
....	....	19	......	......	.0410	1.64	1.673
....	....	......	......	18	.0403	1.62	1.64
....	19	......	......	......	.0400	1.60	1.632
....	....	......	20	......	.0392	1.56	1.59
20	....	......	......	......	.0375	1.50	1.53
....	20	......	......	......	.0360	1.44	1.469
....	....	......	......	19	.0359	1.44	1.46
....	....	20	......	......	.0350	1.40	1.428
....	....	......	21	......	.0349	1.39	1.42
21	....	......	......	......	.0344	1.375	1.402
....	21	21	......	20	.0320	1.28	1.306
22	....	......	22	......	.0312	1.25	1.275
....	....	......	......	21	.0285	1.14	1.16
23	....	......	......	......	.0281	1.125	1.147
....	22	22	......	......	.0280	1.12	1.14
....	....	......	23	......	.0278	1.11	1.13
....	....	......	......	22	.0253	1.02	1.03
24	....	23	......	......	.0250	1.	1.02
....	....	......	24	......	.0247	.99	1.
....	23	......	......	......	.0240	.96	.979
....	....	......	......	23	.0226	.906	.918
....	24	24	25	......	.0220	.88	.898
25	....	......	......	......	.0219	.875	.892
....	....	......	......	24	.0201	.807	.817
....	25	25	......	......	.0200	.80	.816
....	....	......	26	......	.0196	.78	.795
26	....	......	......	......	.0188	.75	.765
....	26	26	......	......	.0180	.72	.734
....	....	......	......	25	.0179	.718	.728
....	....	......	27	......	.0174	.69	.703
27	....	......	......	......	.0172	.688	.701
....	27	......	......	......	.0164	.66	.669
....	....	27	......	......	.0160	.64	.653
....	....	......	......	26	.0159	.645	.648
28	....	......	28	......	.0156	.625	.637
....	28	......	......	......	.0148	.59	.604
....	....	......	......	27	.0142	.57	.581
29	....	......	......	......	.0141	.563	.574
....	....	28	......	......	.0140	.56	.571
....	....	......	29	......	.0139	.55	.561
....	29	......	......	......	.0136	.54	.555
....	....	29	......	......	.0130	.52	.53
....	....	......	......	28	.0126	.507	.514
30	....	......	......	......	.0125	.50	.510
....	30	......	......	......	.0124	.496	.506
....	....	......	30	......	.0123	.495	.505
....	....	30	......	......	.0120	.48	.49
....	....	......	......	29	.0113	.452	.458
....	....	......	......	30	.0100	.40	.408

GAUGE TOLERANCES ON ALL SHEETS EXCEPT GALVANIZED

No. 30 to 28 gauge, inclusive   }
No. 26 to 25 gauge, inclusive   } .002 to .003 plus or minus.

No. 24 to 23 gauge, inclusive   .003 }
No. 22 to 19 gauge, inclusive   .003 }
No. 18 to 17 gauge, inclusive   .004 } plus or minus.
No. 16 to 14 gauge, inclusive   .005 }
No. 13 to 12 gauge, inclusive   .007 }

On ⅛″ and heavier, standard specifications apply, i. e., .01 minus and anything plus, according to Table of Weight.

TABULAR COMPARISON OF WIRE GAGES

(Bureau of Standards)

Gage No.	Birmingham Wire Gage (Stubs)		American Wire Gage (B. & S.)* (Mils)	Steel Wire Gage† (Mils)	Old English Wire Gage (London) (Mils)	Stubs Steel Wire Gage (Mils)	(British) Standard Wire Gage (Mils)	Gage No.
	(Mils)	(mm)						
4–0	454	11.5	460	393.8	454	...	400	4–0
3–0	425	10.8	410	362.5	425	...	372	3–0
2–0	380	9.7	365	331.0	380	...	348	2–0
0	340	8.6	325	306.5	340	...	324	0
1	300	7.6	289	283.0	300	227	300	1
2	284	7.2	258	262.5	284	219	276	2
3	259	6.6	229	243.7	259	212	252	3
4	238	6.0	204	225.3	238	207	232	4
5	220	5.6	182	207.0	220	204	212	5
6	203	5.2	162	192.0	203	201	192	6
7	180	4.6	144	177.0	180	199	176	7
8	165	4.2	128	162.0	165	197	160	8
9	148	3.76	114	148.3	148	194	144	9
10	134	3.40	102	135.0	134	191	128	10
11	120	3.05	91	120.5	120	188	116	11
12	109	2.77	81	105.5	109	185	104	12
13	95	2.41	72	91.5	95	182	92	13
14	83	2.11	64	80.0	83	180	80	14
15	72	1.83	57	72.0	72	178	72	15
16	65	1.65	51	62.5	65	175	64	16
17	58	1.47	45	54.0	58	172	56	17
18	49	1.24	40	47.5	49	168	48	18
19	42	1.07	36	41.0	40	164	40	19
20	35	.89	32	34.8	35	161	36	20
21	32	.81	28.5	31.7	31.5	157	32	21
22	28	.71	25.3	28.6	29.5	155	28	22
23	25	.64	22.6	25.8	27.0	153	24	23
24	22	.56	20.1	23.0	25.0	151	22	24
25	20	.51	17.9	20.4	23.0	148	20	25
26	18	.46	15.9	18.1	20.5	146	18	26
27	16	.41	14.2	17.3	18.75	143	16.4	27
28	14	.36	12.6	16.2	16.50	139	14.8	28
29	13	.330	11.3	15.0	15.50	134	13.6	29
30	12	.305	10.0	14.0	13.75	127	12.4	30
31	10	.254	8.9	13.2	12.25	120	11.6	31
32	9	.229	8.0	12.8	11.25	115	10.8	32
33	8	.203	7.1	11.8	10.25	112	10.0	33
34	7	.178	6.3	10.4	9.50	110	9.2	34
35	5	.127	5.6	9.5	9.00	108	8.4	35
36	4	.102	5.0	9.0	7.50	106	7.6	36
37	...	.....	4.5	8.5	6.50	103	6.8	37
38	...	.....	4.0	8.0	5.75	101	6.0	38
39	...	.....	3.5	7.5	5.00	99	5.2	39
40	...	.....	3.1	7.0	4.50	97	4.8	40
41	...	.....	.....	6.6	......	95	4.4	41

*The American Wire Gage sizes have here been rounded off to about the usual limits of commercial accuracy.

†The Steel Wire gage is the same gage which has been known by the various names: "Washburn and Moen," "Roebling," "American Steel & Wire Co." Its abbreviation should be written "Stl. W. G.," to distinguish it from "S. W. G.", the usual abbreviation for the (British) Standard Wire Gage.

SQUARE FEET OF BLACK SHEETS CONTAINED IN A TON OF 2,000 LBS. AND 2,240 LBS.

U. S. STANDARD GAUGE

	2,000 Lbs. Feet	2,240 Lbs. Feet
0000000	100.	112.
000000	106.6	119.8
00000	114.2	128.
0000	123.1	137.8
000	133.3	149.3
00	145.5	162.9
0	160.	179.2
1	177.7	199.1
2	188.2	210.8
3	200.	224.
4	213.3	238.9
5	228.5	256.
6	246.2	275.6
7	266.6	298.6
8	291.	325.8
9	320.	358.4
10	355.5	398.2
11	400.	448.
12	457.	512.
13	533.3	597.3
14	640	716.8
15	711	796.4
16	800	896
17	888	995.5
18	1000	1120
19	1142	1280
20	1333	1493
21	1455	1629
22	1600	1792
23	1777	1991
24	2000	2240
25	2285	2560
26	2666	2986
27	2910	3258
28	3200	3584
29	3555	3982
30	4000	4480

CONVENIENT WEIGHT TABLES FOR BLACK SHEETS AND PLATES

The tables on the following pages are based on the theoretical weight of a strip of wrought iron 1″ wide.   To find the weight of a sheet of a given size, multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.   Example: Find the weight of a Black Sheet No. 10 gauge 30″ wide and 96″ long.

In the table for No. 10 gauge, the weight shown opposite the length 96 is 3.747 lbs. (the weight of a strip No. 10 gauge 1″ wide and 96″ long).   Multiply this by 30 (the width of the sheet) and the result is 112.41 lbs.   The theoretical weight of a Black sheet of wrought iron No. 10 gauge 30″ wide and 96″ long.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
0000000 or ½″ @ 20 lbs. per sq. ft.	60	8.332	90	12.496	120	16.660	150	20.824	180	24.988	210	29.152
	61	8.470	91	12.634	121	16.798	151	20.962	181	25.126	211	29.290
	62	8.609	92	12.773	122	16.937	152	21.101	182	25.265	212	29.429
	63	8.748	93	12.912	123	17.076	153	21.240	183	25.404	213	29.568
	64	8.887	94	13.051	124	17.215	154	21.379	184	25.543	214	29.707
	65	9.026	95	13.190	125	17.354	155	21.518	185	25.682	215	29.846
	66	9.164	96	13.328	126	17.492	156	21.656	186	25.820	216	29.984
	67	9.303	97	13.467	127	17.631	157	21.795	187	25.959	217	30.123
	68	9.442	98	13.606	128	17.770	158	21.934	188	26.098	218	30.262
	69	9.581	99	13.745	129	17.909	159	22.073	189	26.237	219	30.401
	70	9.720	100	13.884	130	18.048	160	22.212	190	26.376	220	30.540
	71	9.858	101	14.022	131	18.186	161	22.350	191	26.514	221	30.678
	72	9.997	102	14.161	132	18.325	162	22.489	192	26.653	222	30.817
	73	10.136	103	14.300	133	18.464	163	22.628	193	26.792	223	30.956
	74	10.275	104	14.439	134	18.603	164	22.767	194	26.931	224	31.095
	75	10.414	105	14.578	135	18.742	165	22.906	195	27.070	225	31.234
	76	10.552	106	14.716	136	18.880	166	23.044	196	27.208	226	31.372
	77	10.691	107	14.855	137	19.019	167	23.183	197	27.347	227	31.511
	78	10.830	108	14.994	138	19.158	168	23.322	198	27.486	228	31.650
	79	10.969	109	15.133	139	19.297	169	23.461	199	27.625	229	31.789
	80	11.108	110	15.272	140	19.436	170	23.600	200	27.764	230	31.928
	81	11.246	111	15.410	141	19.574	171	23.738	201	27.902	231	32.066
	82	11.385	112	15.549	142	19.713	172	23.877	202	28.041	232	32.205
	83	11.524	113	15.688	143	19.852	173	24.016	203	28.180	233	32.344
	84	11.663	114	15.827	144	19.991	174	24.155	204	28.319	234	32.483
	85	11.802	115	15.966	145	20.130	175	24.294	205	28.458	235	32.622
	86	11.940	116	16.104	146	20.268	176	24.432	206	28.596	236	32.760
	87	12.079	117	16.243	147	20.407	177	24.571	207	28.735	237	32.899
	88	12.218	118	16.382	148	20.546	178	24.710	208	28.874	238	33.038
	89	12.357	119	16.521	149	20.685	179	24.849	209	29.013	239	33.177

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
000000 or 15/32" @ 18.75 lbs. per sq. ft.	60	7.811	90	11.717	120	15.623	150	19.524	180	23.435
	61	7.941	91	11.847	121	15.753	151	19.659	181	23.565
	62	8.071	92	11.977	122	15.883	152	19.789	182	23.695
	63	8.201	93	12.107	123	16.013	153	19.919	183	23.825
	64	8.331	94	12.237	124	16.143	154	20.049	184	23.955
	65	8.462	95	12.368	125	16.274	155	20.180	185	24.086
	66	8.592	96	12.498	126	16.404	156	20.310	186	24.216
	67	8.722	97	12.628	127	16.534	157	20.440	187	24.346
	68	8.852	98	12.758	128	16.664	158	20.570	188	24.476
	69	8.892	99	12.888	129	16.794	159	20.700	189	24.606
	70	9.113	100	13.019	130	16.925	160	20.831	190	24.737
	71	9.243	101	13.149	131	17.055	161	20.961	191	24.867
	72	9.373	102	13.279	132	17.185	162	21.091	192	24.997
	73	9.513	103	13.409	133	17.315	163	21.221	193	25.127
	74	9.633	104	13.539	134	17.445	164	21.351	194	25.257
	75	9.764	105	13.670	135	17.576	165	21.482	195	25.388
	76	9.894	106	13.800	136	17.706	166	21.612	196	25.518
	77	10.024	107	13.930	137	17.836	167	21.742	197	25.648
	78	10.154	108	14.060	138	17.966	168	21.872	198	25.778
	79	10.284	109	14.190	139	18.096	169	22.002	199	25.908
	80	10.415	110	14.321	140	18.227	170	22.133	200	26.039
	81	10.545	111	14.451	141	18.357	171	22.263	201	26.169
	82	10.675	112	14.581	142	18.487	172	22.393	202	26.299
	83	10.805	113	14.711	143	18.617	173	22.523	203	26.429
	84	10.935	114	14.841	144	18.747	174	22.653	204	26.559
	85	11.066	115	14.972	145	18.878	175	22.784	205	26.690
	86	11.196	116	15.102	146	19.008	176	22.914	206	26.820
	87	11.326	117	15.232	147	19.138	177	23.044	207	26.950
	88	11.456	118	15.362	148	19.268	178	23.174	208	27.080
	89	11.586	119	15.492	149	19.398	179	23.304	209	27.210

Length	Weight
210	27.341
211	27.471
212	27.601
213	27.731
214	27.861
215	27.992
216	28.122
217	28.252
218	28.382
219	28.512
220	28.643
221	28.773
222	28.903
223	29.033
224	29.163
225	29.294
226	29.424
227	29.554
228	29.684
229	29.814
230	29.945
231	30.075
232	30.205
233	30.335
234	30.465
235	30.596
236	30.726
237	30.856
238	30.986
239	31.116

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
00000 or 1/16 (n.) 17.50 lbs. per sq. ft.	60	7.290	90	10.935	120	14.580	150	18.225	180	21.870	210	25.515
	61	7.412	91	11.057	121	14.702	151	18.347	181	21.992	211	25.637
	62	7.533	92	11.178	122	14.823	152	18.468	182	22.113	212	25.758
	63	7.655	93	11.300	123	14.945	153	18.590	183	22.235	213	25.880
	64	7.776	94	11.421	124	15.066	154	18.711	184	22.356	214	26.001
	65	7.898	95	11.543	125	15.188	155	18.833	185	22.478	215	26.123
	66	8.019	96	11.664	126	15.309	156	18.954	186	22.599	216	26.244
	67	8.141	97	11.786	127	15.431	157	19.076	187	22.721	217	26.366
	68	8.262	98	11.907	128	15.552	158	19.197	188	22.849	218	26.487
	69	8.384	99	12.029	129	15.674	159	19.319	189	22.964	219	26.609
	70	8.505	100	12.150	130	15.795	160	19.440	190	23.085	220	26.730
	71	8.627	101	12.272	131	15.917	161	19.562	191	23.207	221	26.852
	72	8.748	102	12.393	132	16.038	162	19.683	192	23.328	222	26.973
	73	8.870	103	12.515	133	16.160	163	19.805	193	23.450	223	27.095
	74	8.991	104	12.636	134	16.281	164	19.926	194	23.571	224	27.216
	75	9.113	105	12.758	135	16.403	165	20.048	195	23.693	225	27.338
	76	9.234	106	12.879	136	16.524	166	20.169	196	23.814	226	27.459
	77	9.356	107	13.001	137	16.646	167	20.291	197	23.936	227	27.581
	78	9.477	108	13.122	138	16.767	168	20.412	198	24.051	228	27.702
	79	9.599	109	13.244	139	16.889	169	20.534	199	24.179	229	27.824
	80	9.720	110	13.365	140	17.010	170	20.655	200	24.300	230	27.945
	81	9.842	111	13.487	141	17.132	171	20.777	201	24.422	231	28.067
	82	9.963	112	13.608	142	17.253	172	20.898	202	24.543	232	28.188
	83	10.085	113	13.730	143	17.375	173	21.020	203	24.665	233	28.310
	84	10.206	114	13.851	144	17.496	174	21.141	204	24.786	234	28.431
	85	10.328	115	13.973	145	17.618	175	21.263	205	24.908	235	28.553
	86	10.449	116	14.094	146	17.739	176	21.384	206	25.029	236	28.674
	87	10.571	117	14.216	147	17.861	177	21.506	207	25.151	237	28.796
	88	10.692	118	14.337	148	17.982	178	21.627	208	25.272	238	28.917
	89	10.814	119	14.459	149	18.104	179	21.749	209	25.394	239	29.039

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
0000 or 13/32" (a) 16.25 lbs. per sq. ft.	60	6.769	90	10.153	120	13.537	150	16.921	180	20.305	210	23.689
	61	6.881	91	10.265	121	13.649	151	17.033	181	20.417	211	23.801
	62	6.994	92	10.378	122	13.762	152	17.146	182	20.530	212	23.914
	63	7.107	93	10.491	123	13.875	153	17.259	183	20.643	213	24.027
	64	7.220	94	10.604	124	13.988	154	17.372	184	20.756	214	24.140
	65	7.333	95	10.717	125	14.101	155	17.485	185	20.869	215	24.253
	66	7.445	96	10.829	126	14.213	156	17.597	186	20.981	216	24.365
	67	7.558	97	10.942	127	14.326	157	17.710	187	21.094	217	24.478
	68	7.671	98	11.055	128	14.439	158	17.823	188	21.207	218	24.591
	69	7.784	99	11.168	129	14.552	159	17.936	189	21.320	219	24.704
	70	7.897	100	11.281	130	14.665	160	18.049	190	21.433	220	24.817
	71	8.009	101	11.393	131	14.777	161	18.161	191	21.545	221	24.929
	72	8.122	102	11.506	132	14.890	162	18.274	192	21.658	222	25.042
	73	8.233	103	11.619	133	15.003	163	18.387	193	21.771	223	25.155
	74	8.348	104	11.732	134	15.116	164	18.500	194	21.884	224	25.268
	75	8.461	105	11.845	135	15.229	165	18.613	195	21.997	225	25.381
	76	8.573	106	11.957	136	15.341	166	18.725	196	22.109	226	25.493
	77	8.686	107	12.070	137	15.454	167	18.838	197	22.222	227	25.606
	78	8.799	108	12.183	138	15.567	168	18.951	198	22.335	228	25.719
	79	8.912	109	12.296	139	15.680	169	19.064	199	22.448	229	25.832
	80	9.025	110	12.409	140	15.793	170	19.177	200	22.561	230	25.945
	81	9.137	111	12.521	141	15.905	171	19.289	201	22.673	231	26.057
	82	9.250	112	12.634	142	16.018	172	19.402	202	22.786	232	26.170
	83	9.363	113	12.747	143	16.131	173	19.515	203	22.899	233	26.283
	84	9.476	114	12.860	144	16.244	174	19.628	204	23.012	234	26.396
	85	9.589	115	12.973	145	16.357	175	19.741	205	23.125	235	26.509
	86	9.701	116	13.085	146	16.469	176	19.853	206	23.237	236	26.621
	87	9.814	117	13.198	147	16.582	177	19.966	207	23.350	237	26.734
	88	9.927	118	13.311	148	16.695	178	20.079	208	23.463	238	26.847
	89	10.040	119	13.424	149	16.808	179	20.192	209	23.576	239	26.960

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
000 or 3/8" @ 15 lbs. per sq. ft.	60	6.249	90	9.372	120	12.495	150	15.618	180	18.741	210	21.864
	61	6.353	91	9.476	121	12.599	151	15.722	181	18.845	211	21.956
	62	6.457	92	9.580	122	12.703	152	15.826	182	18.949	212	22.072
	63	6.561	93	9.684	123	12.807	153	15.930	183	19.053	213	22.176
	64	6.665	94	9.788	124	12.911	154	16.034	184	19.157	214	22.280
	65	6.769	95	9.892	125	13.015	155	16.138	185	19.261	215	22.384
	66	6.873	96	9.996	126	13.119	156	16.242	186	19.355	216	22.488
	67	6.977	97	10.100	127	13.223	157	16.346	187	19.469	217	22.592
	68	7.081	98	10.204	128	13.327	158	16.450	188	19.573	218	22.696
	69	7.185	99	10.308	129	13.431	159	16.554	189	19.677	219	22.800
	70	7.290	100	10.413	130	13.536	160	16.659	190	19.782	220	22.905
	71	7.394	101	10.517	131	13.640	161	16.763	191	19.886	221	23.009
	72	7.498	102	10.621	132	13.744	162	16.867	192	19.990	222	23.113
	73	7.602	103	10.725	133	13.848	163	16.971	193	20.094	223	23.217
	74	7.706	104	10.829	134	13.952	164	17.075	194	20.198	224	23.321
	75	7.810	105	10.933	135	14.056	165	17.179	195	20.302	225	23.425
	76	7.914	106	11.037	136	14.160	166	17.283	196	20.406	226	23.529
	77	8.018	107	11.141	137	14.264	167	17.387	197	20.510	227	23.633
	78	8.122	108	11.245	138	14.368	168	17.491	198	20.614	228	23.737
	79	8.226	109	11.349	139	14.472	169	17.595	199	20.718	229	23.841
	80	8.331	110	11.454	140	14.577	170	17.700	200	20.823	230	23.946
	81	8.435	111	11.558	141	14.681	171	17.804	201	20.927	231	24.050
	82	8.539	112	11.662	142	14.785	172	17.908	202	21.031	232	24.154
	83	8.643	113	11.766	143	14.889	173	18.012	203	21.135	233	24.258
	84	8.747	114	11.870	144	14.993	174	18.116	204	21.239	234	24.362
	85	8.851	115	11.974	145	15.097	175	18.220	205	21.343	235	24.466
	86	8.955	116	12.078	146	15.201	176	18.324	206	21.447	236	24.570
	87	9.059	117	12.182	147	15.305	177	18.428	207	21.551	237	24.674
	88	9.163	118	12.286	148	15.409	178	18.532	208	21.655	238	24.778
	89	9.267	119	12.390	149	15.513	179	18.636	209	21.759	239	24.882

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
00 or 11/32" @ 13.75 lbs. per sq. ft.	60	5.728	90	8.590	120	11.452	150	14.314	180	17.176	210	20.038
	61	5.823	91	8.685	121	11.547	151	14.409	181	17.271	211	20.133
	62	5.919	92	8.781	122	11.643	152	14.505	182	17.367	212	20.229
	63	6.014	93	8.876	123	11.738	153	14.600	183	17.462	213	20.324
	64	6.109	94	8.971	124	11.833	154	14.695	184	17.557	214	20.419
	65	6.205	95	9.067	125	11.929	155	14.791	185	17.653	215	20.515
	66	6.300	96	9.162	126	12.024	156	14.886	186	17.748	216	20.610
	67	6.396	97	9.258	127	12.120	157	14.982	187	17.844	217	20.706
	68	6.491	98	9.353	128	12.215	158	15.077	188	17.939	218	20.801
	69	6.586	99	9.448	129	12.310	159	15.172	189	18.034	219	20.896
	70	6.682	100	9.544	130	12.406	160	15.268	190	18.130	220	20.992
	71	6.777	101	9.639	131	12.501	161	15.363	191	18.225	221	21.087
	72	6.873	102	9.735	132	12.597	162	15.459	192	18.321	222	21.183
	73	6.968	103	9.830	133	12.692	163	15.554	193	18.416	223	21.278
	74	7.063	104	9.925	134	12.787	164	15.649	194	18.511	224	21.373
	75	7.159	105	10.021	135	12.883	165	15.745	195	18.607	225	21.469
	76	7.254	106	10.116	136	12.978	166	15.840	196	18.702	226	21.564
	77	7.350	107	10.212	137	13.074	167	15.936	197	18.798	227	21.660
	78	7.445	108	10.307	138	13.169	168	16.031	198	18.893	228	21.755
	79	7.540	109	10.402	139	13.264	169	16.126	199	18.988	229	21.850
	80	7.636	110	10.498	140	13.360	170	16.222	200	19.084	230	21.946
	81	7.731	111	10.593	141	13.455	171	16.317	201	19.179	231	22.041
	82	7.827	112	10.689	142	13.551	172	16.413	202	19.275	232	22.137
	83	7.922	113	10.784	143	13.646	173	16.508	203	19.370	233	22.232
	84	8.017	114	10.879	144	13.741	174	16.603	204	19.465	234	22.327
	85	8.113	115	10.975	145	13.837	175	16.699	205	19.561	235	22.423
	86	8.208	116	11.070	146	13.932	176	16.794	206	19.656	236	22.518
	87	8.304	117	11.166	147	14.028	177	16.890	207	19.752	237	22.614
	88	8.399	118	11.261	148	14.123	178	16.985	208	19.847	238	22.709
	89	8.494	119	11.356	149	14.218	179	17.080	209	19.942	239	22.804

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
0 or 5/16 (in.) 12.50 lbs. per sq. ft.	60	5.207	90	7.808	120	10.409	150	13.010	180	15.611	210	18.212
	61	5.294	91	7.895	121	10.496	151	13.097	181	15.698	211	18.299
	62	5.380	92	7.981	122	10.582	152	13.183	182	15.784	212	18.385
	63	5.467	93	8.068	123	10.669	153	13.270	183	15.871	213	18.472
	64	5.554	94	8.155	124	10.756	154	13.357	184	15.958	214	18.559
	65	5.641	95	8.242	125	10.843	155	13.444	185	16.045	215	18.646
	66	5.727	96	8.328	126	10.929	156	13.530	186	16.131	216	18.732
	67	5.814	97	8.415	127	11.016	157	13.617	187	16.218	217	18.819
	68	5.901	98	8.502	128	11.103	158	13.704	188	16.305	218	18.906
	69	5.987	99	8.588	129	11.189	159	13.790	189	16.391	219	18.992
	70	6.074	100	8.675	130	11.276	160	13.877	190	16.478	220	19.079
	71	6.161	101	8.762	131	11.363	161	13.964	191	16.565	221	19.166
	72	6.247	102	8.848	132	11.449	162	14.050	192	16.651	222	19.252
	73	6.334	103	8.935	133	11.536	163	14.137	193	16.738	223	19.339
	74	6.421	104	9.022	134	11.623	164	14.224	194	16.825	224	19.426
	75	6.508	105	9.109	135	11.710	165	14.311	195	16.912	225	19.513
	76	6.594	106	9.195	136	11.796	166	14.397	196	16.998	226	19.599
	77	6.681	107	9.282	137	11.883	167	14.484	197	17.085	227	19.686
	78	6.768	108	9.369	138	11.970	168	14.571	198	17.172	228	19.773
	79	6.854	109	9.455	139	12.056	169	14.657	199	17.258	229	19.859
	80	6.941	110	9.542	140	12.143	170	14.744	200	17.345	230	19.946
	81	7.028	111	9.629	141	12.230	171	14.831	201	17.432	231	20.033
	82	7.114	112	9.715	142	12.316	172	14.917	202	17.518	232	20.119
	83	7.201	113	9.802	143	12.403	173	15.004	203	17.605	233	20.206
	84	7.288	114	9.889	144	12.490	174	15.091	204	17.692	234	20.293
	85	7.375	115	9.976	145	12.577	175	15.178	205	17.779	235	20.380
	86	7.461	116	10.062	146	12.663	176	15.264	206	17.865	236	20.466
	87	7.548	117	10.149	147	12.750	177	15.351	207	17.952	237	20.553
	88	7.635	118	10.236	148	12.837	178	15.438	208	18.039	238	20.640
	89	7.721	119	10.322	149	12.923	179	15.524	209	18.125	239	20.727

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
1 or 9/32 @ 11.25 lbs. per sq. ft.	60	4.686	90	7.029	120	9.372	150	11.715	180	14.058	210	16.401
	61	4.764	91	7.107	121	9.450	151	11.793	181	14.136	211	16.479
	62	4.842	92	7.185	122	9.528	152	11.871	182	14.214	212	16.557
	63	4.920	93	7.263	123	9.606	153	11.949	183	14.292	213	16.635
	64	4.998	94	7.341	124	9.684	154	12.027	184	14.370	214	16.713
	65	5.076	95	7.419	125	9.762	155	12.105	185	14.448	215	16.791
	66	5.154	96	7.497	126	9.840	156	12.183	186	14.526	216	16.869
	67	5.232	97	7.575	127	9.918	157	12.261	187	14.604	217	16.947
	68	5.310	98	7.653	128	9.996	158	12.339	188	14.682	218	17.025
	69	5.388	99	7.731	129	10.074	159	12.417	189	14.760	219	17.103
	70	5.467	100	7.810	130	10.153	160	12.496	190	14.839	220	17.182
	71	5.545	101	7.888	131	10.231	161	12.574	191	14.917	221	17.260
	72	5.623	102	7.966	132	10.309	162	12.652	192	14.995	222	17.338
	73	5.701	103	8.044	133	10.387	163	12.730	193	15.073	223	17.416
	74	5.779	104	8.122	134	10.465	164	12.808	194	15.151	224	17.494
	75	5.857	105	8.200	135	10.543	165	12.886	195	15.229	225	17.572
	76	5.935	106	8.278	136	10.621	166	12.964	196	15.307	226	17.650
	77	6.013	107	8.356	137	10.699	167	13.042	197	15.385	227	17.728
	78	6.091	108	8.434	138	10.777	168	13.120	198	15.463	228	17.806
	79	6.169	109	8.512	139	10.855	169	13.198	199	15.541	229	17.884
	80	6.248	110	8.591	140	10.934	170	13.277	200	15.620	230	17.963
	81	6.326	111	8.669	141	11.012	171	13.355	201	15.698	231	18.041
	82	6.404	112	8.747	142	11.090	172	13.433	202	15.776	232	18.119
	83	6.482	113	8.825	143	11.168	173	13.511	203	15.854	233	18.197
	84	6.560	114	8.903	144	11.246	174	13.589	204	15.932	234	18.275
	85	6.638	115	8.981	145	11.324	175	13.667	205	16.010	235	18.353
	86	6.716	116	9.059	146	11.402	176	13.745	206	16.088	236	18.431
	87	6.794	117	9.137	147	11.480	177	13.823	207	16.166	237	18.509
	88	6.872	118	9.215	148	11.558	178	13.901	208	16.244	238	18.587
	89	6.950	119	9.293	149	11.636	179	13.979	209	16.322	239	18.665

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
2 or 12/64 (a) 10.625 lbs. per sq. ft.	60	4.426	90	6.637	120	8.848	150	11.059	180	13.270	210	15.481
	61	4.500	91	6.711	121	8.922	151	11.133	181	13.344	211	15.555
	62	4.573	92	6.784	122	8.995	152	11.206	182	13.417	212	15.628
	63	4.647	93	6.858	123	9.069	153	11.280	183	13.491	213	15.702
	64	4.721	94	6.932	124	9.143	154	11.354	184	13.565	214	15.776
	65	4.794	95	7.005	125	9.216	155	11.427	185	13.638	215	15.849
	66	4.868	96	7.079	126	9.291	156	11.501	186	13.712	216	15.923
	67	4.942	97	7.153	127	9.364	157	11.575	187	13.786	217	15.997
	68	5.015	98	7.226	128	9.437	158	11.648	188	13.859	218	16.070
	69	5.089	99	7.300	129	9.511	159	11.722	189	13.933	219	16.144
	70	5.163	100	7.374	130	9.585	160	11.796	190	14.007	220	16.218
	71	5.237	101	7.448	131	9.659	161	11.870	191	14.081	221	16.292
	72	5.310	102	7.521	132	9.732	162	11.943	192	14.154	222	16.365
	73	5.384	103	7.595	133	9.806	163	12.017	193	14.228	223	16.439
	74	5.458	104	7.669	134	9.881	164	12.091	194	14.302	224	16.513
	75	5.531	105	7.742	135	9.953	165	12.164	195	14.375	225	16.586
	76	5.605	106	7.816	136	10.027	166	12.238	196	14.449	226	16.660
	77	5.679	107	7.890	137	10.101	167	12.312	197	14.523	227	16.734
	78	5.752	108	7.963	138	10.174	168	12.385	198	14.596	228	16.807
	79	5.826	109	8.037	139	10.248	169	12.459	199	14.670	229	16.881
	80	5.900	110	8.111	140	10.322	170	12.533	200	14.744	230	16.955
	81	5.974	111	8.185	141	10.396	171	12.607	201	14.818	231	17.029
	82	6.047	112	8.258	142	10.469	172	12.680	202	14.891	232	17.102
	83	6.121	113	8.332	143	10.543	173	12.754	203	14.965	233	17.176
	84	6.195	114	8.406	144	10.617	174	12.828	204	15.039	234	17.250
	85	6.268	115	8.479	145	10.690	175	12.901	205	15.112	235	17.323
	86	6.342	116	8.553	146	10.764	176	12.975	206	15.186	236	17.397
	87	6.416	117	8.627	147	10.838	177	13.049	207	15.260	237	17.471
	88	6.489	118	8.700	148	10.911	178	13.122	208	15.333	238	17.544
	89	6.563	119	8.774	149	10.985	179	13.196	209	15.407	239	17.618

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
3 or ¼" 10 lbs. per sq. ft.	60	4.166	90	6.248	120	8.330	150	10.412	180	12.494	210	14.576
	61	4.235	91	6.317	121	8.399	151	10.481	181	12.562	211	14.645
	62	4.304	92	6.386	122	8.468	152	10.550	182	12.632	212	14.714
	63	4.374	93	6.456	123	8.538	153	10.620	183	12.702	213	14.784
	64	4.443	94	6.525	124	8.607	154	10.689	184	12.771	214	14.853
	65	4.513	95	6.595	125	8.677	155	10.759	185	12.841	215	14.923
	66	4.582	96	6.664	126	8.746	156	10.828	186	12.910	216	14.992
	67	4.651	97	6.733	127	8.815	157	10.897	187	12.979	217	15.061
	68	4.721	98	6.803	128	8.885	158	10.967	188	13.049	218	15.131
	69	4.790	99	6.872	129	8.954	159	11.036	189	13.118	219	15.200
	70	4.860	100	6.942	130	9.024	160	11.106	190	13.188	220	15.270
	71	4.929	101	7.011	131	9.093	161	11.175	191	13.257	221	15.339
	72	4.998	102	7.080	132	9.162	162	11.244	192	13.326	222	15.408
	73	5.068	103	7.150	133	9.232	163	11.314	193	13.396	223	15.478
	74	5.137	104	7.219	134	9.301	164	11.383	194	13.465	224	15.547
	75	5.207	105	7.289	135	9.371	165	11.453	195	13.535	225	15.617
	76	5.276	106	7.358	136	9.440	166	11.522	196	13.604	226	15.686
	77	5.345	107	7.427	137	9.509	167	11.591	197	13.673	227	15.755
	78	5.415	108	7.497	138	9.579	168	11.661	198	13.743	228	15.825
	79	5.484	109	7.566	139	9.648	169	11.730	199	13.812	229	15.894
	80	5.554	110	7.636	140	9.718	170	11.800	200	13.882	230	15.964
	81	5.623	111	7.705	141	9.787	171	11.869	201	13.951	231	16.033
	82	5.692	112	7.774	142	9.856	172	11.938	202	14.020	232	16.102
	83	5.762	113	7.844	143	9.926	173	12.008	203	14.090	233	16.172
	84	5.831	114	7.913	144	9.995	174	12.077	204	14.159	234	16.241
	85	5.901	115	7.983	145	10.065	175	12.147	205	14.229	235	16.311
	86	5.970	116	8.052	146	10.134	176	12.216	206	14.298	236	16.380
	87	6.039	117	8.121	147	10.203	177	12.285	207	14.367	237	16.449
	88	6.109	118	8.191	148	10.273	178	12.355	208	14.437	238	16.519
	89	6.178	119	8.260	149	10.342	179	12.424	209	14.506	239	16.588

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
4 or $\frac{15}{64}$ (a) 9.375 lbs. per sq. ft.	60	3.905	90	5.858	120	7.811	150	9.764	180	11.717	210	13.670
	61	3.970	91	5.923	121	7.876	151	9.829	181	11.782	211	13.735
	62	4.035	92	5.988	122	7.941	152	9.894	182	11.847	212	13.800
	63	4.100	93	6.053	123	8.006	153	9.959	183	11.912	213	13.865
	64	4.166	94	6.119	124	8.072	154	10.025	184	11.978	214	13.931
	65	4.231	95	6.184	125	8.137	155	10.090	185	12.043	215	13.996
	66	4.296	96	6.249	126	8.202	156	10.155	186	12.108	216	14.061
	67	4.361	97	6.314	127	8.267	157	10.220	187	12.173	217	14.126
	68	4.426	98	6.379	128	8.332	158	10.285	188	12.238	218	14.191
	69	4.491	99	6.444	129	8.397	159	10.350	189	12.303	219	14.256
	70	4.556	100	6.509	130	8.462	160	10.415	190	12.368	220	14.321
	71	4.621	101	6.574	131	8.527	161	10.480	191	12.433	221	14.386
	72	4.686	102	6.639	132	8.592	162	10.545	192	12.498	222	14.451
	73	4.751	103	6.704	133	8.657	163	10.610	193	12.563	223	14.516
	74	4.817	104	6.770	134	8.723	164	10.676	194	12.629	224	14.582
	75	4.882	105	6.835	135	8.788	165	10.741	195	12.694	225	14.647
	76	4.947	106	6.900	136	8.853	166	10.806	196	12.759	226	14.712
	77	5.012	107	6.965	137	8.918	167	10.871	197	12.824	227	14.777
	78	5.077	108	7.030	138	8.983	168	10.936	198	12.889	228	14.842
	79	5.142	109	7.095	139	9.048	169	11.001	199	12.954	229	14.907
	80	5.207	110	7.160	140	9.113	170	11.066	200	13.019	230	14.972
	81	5.272	111	7.225	141	9.178	171	11.131	201	13.084	231	15.037
	82	5.337	112	7.290	142	9.243	172	11.196	202	13.149	232	15.102
	83	5.402	113	7.355	143	9.308	173	11.261	203	13.214	233	15.167
	84	5.468	114	7.421	144	9.374	174	11.327	204	13.280	234	15.233
	85	5.533	115	7.486	145	9.439	175	11.392	205	13.345	235	15.298
	86	5.598	116	7.551	146	9.504	176	11.457	206	13.410	236	15.363
	87	5.663	117	7.616	147	9.569	177	11.522	207	13.475	237	15.428
	88	5.728	118	7.681	148	9.634	178	11.587	208	13.540	238	15.493
	89	5.793	119	7.746	149	9.699	179	11.652	209	13.605	239	15.558

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
5 or 7/32" @ 8.75 lbs. per sq. ft.	60	3.645	90	5.466	120	7.287	150	9.108	180	10.929	210	12.750
	61	3.705	91	5.526	121	7.347	151	9.168	181	10.989	211	12.810
	62	3.766	92	5.587	122	7.408	152	9.229	182	11.050	212	12.871
	63	3.827	93	5.648	123	7.469	153	9.290	183	11.111	213	12.932
	64	3.888	94	5.709	124	7.530	154	9.351	184	11.172	214	12.993
	65	3.948	95	5.769	125	7.590	155	9.411	185	11.232	215	13.053
	66	4.009	96	5.830	126	7.651	156	9.472	186	11.293	216	13.114
	67	4.070	97	5.891	127	7.712	157	9.533	187	11.354	217	13.175
	68	4.130	98	5.951	128	7.772	158	9.593	188	11.414	218	13.235
	69	4.191	99	6.012	129	7.833	159	9.654	189	11.475	219	13.296
	70	4.252	100	6.073	130	7.894	160	9.715	190	11.536	220	13.357
	71	4.312	101	6.133	131	7.954	161	9.775	191	11.596	221	13.417
	72	4.375	102	6.194	132	8.015	162	9.836	192	11.657	222	13.478
	73	4.434	103	6.255	133	8.076	163	9.897	193	11.718	223	13.539
	74	4.495	104	6.316	134	8.137	164	9.958	194	11.779	224	13.600
	75	4.555	105	6.376	135	8.197	165	10.018	195	11.839	225	13.660
	76	4.616	106	6.437	136	8.258	166	10.079	196	11.900	226	13.721
	77	4.677	107	6.498	137	8.319	167	10.140	197	11.961	227	13.782
	78	4.737	108	6.558	138	8.379	168	10.200	198	12.021	228	13.842
	79	4.798	109	6.619	139	8.440	169	10.261	199	12.082	229	13.903
	80	4.859	110	6.680	140	8.501	170	10.322	200	12.143	230	13.964
	81	4.919	111	6.740	141	8.561	171	10.382	201	12.203	231	14.024
	82	4.980	112	6.801	142	8.622	172	10.443	202	12.264	232	14.085
	83	5.041	113	6.862	143	8.683	173	10.504	203	12.325	233	14.146
	84	5.102	114	6.923	144	8.744	174	10.565	204	12.386	234	14.207
	85	5.162	115	6.983	145	8.804	175	10.625	205	12.446	235	14.267
	86	5.223	116	7.044	146	8.865	176	10.686	206	12.507	236	14.328
	87	5.284	117	7.105	147	8.926	177	10.747	207	12.568	237	14.389
	88	5.344	118	7.165	148	8.986	178	10.807	208	12.628	238	14.449
	89	5.405	119	7.226	149	9.047	179	10.868	209	12.689	239	14.510

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
6 or 13/64 @ 8.125 lbs. per sq. ft.	60	3.384	90	5.076	120	6.768	150	8.460	180	10.152	210	11.844
	61	3.441	91	5.133	121	6.825	151	8.517	181	10.209	211	11.901
	62	3.497	92	5.188	122	6.881	152	8.573	182	10.265	212	11.957
	63	3.554	93	5.246	123	6.938	153	8.630	183	10.322	213	12.014
	64	3.610	94	5.302	124	6.994	154	8.686	184	10.378	214	12.070
	65	3.666	95	5.358	125	7.050	155	8.742	185	10.434	215	12.126
	66	3.723	96	5.415	126	7.107	156	8.799	186	10.491	216	12.183
	67	3.779	97	5.471	127	7.163	157	8.855	187	10.547	217	12.239
	68	3.836	98	5.528	128	7.220	158	8.912	188	10.604	218	12.296
	69	3.892	99	5.584	129	7.276	159	8.968	189	10.660	219	12.352
	70	3.948	100	5.640	130	7.332	160	9.024	190	10.716	220	12.408
	71	4.005	101	5.697	131	7.389	161	9.081	191	10.773	221	12.465
	72	4.061	102	5.753	132	7.445	162	9.137	192	10.829	222	12.521
	73	4.118	103	5.810	133	7.502	163	9.194	193	10.886	223	12.578
	74	4.174	104	5.866	134	7.558	164	9.250	194	10.942	224	12.634
	75	4.230	105	5.922	135	7.614	165	9.306	195	10.998	225	12.690
	76	4.287	106	5.977	136	7.671	166	9.363	196	11.055	226	12.747
	77	4.343	107	6.035	137	7.727	167	9.419	197	11.111	227	12.803
	78	4.400	108	6.092	138	7.784	168	9.476	198	11.168	228	12.860
	79	4.456	109	6.148	139	7.840	169	9.532	199	11.224	229	12.916
	80	4.512	110	6.204	140	7.896	170	9.588	200	11.280	230	12.972
	81	4.569	111	6.261	141	7.953	171	9.645	201	11.337	231	13.029
	82	4.625	112	6.317	142	8.009	172	9.701	202	11.393	232	13.085
	83	4.682	113	6.374	143	8.066	173	9.758	203	11.450	233	13.142
	84	4.739	114	6.430	144	8.122	174	9.814	204	11.506	234	13.198
	85	4.794	115	6.486	145	8.178	175	9.870	205	11.562	235	13.254
	86	4.851	116	6.543	146	8.235	176	9.927	206	11.619	236	13.311
	87	4.907	117	6.599	147	8.291	177	9.983	207	11.675	237	13.367
	88	4.956	118	6.656	148	8.348	178	10.040	208	11.732	238	13.424
	89	5.020	119	6.712	149	8.404	179	10.096	209	11.788	239	13.480

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
7 or 3/16 (a) 7.5 lbs. per sq. ft.	60	3.124	90	4.684	120	6.244	150	7.804	180	9.364	210	10.924
	61	3.176	91	4.736	121	6.296	151	7.856	181	9.416	211	10.976
	62	3.228	92	4.788	122	6.348	152	7.908	182	9.468	212	11.028
	63	3.280	93	4.840	123	6.400	153	7.960	183	9.520	213	11.080
	64	3.332	94	4.892	124	6.452	154	8.012	184	9.572	214	11.132
	65	3.384	95	4.944	125	6.504	155	8.064	185	9.624	215	11.184
	66	3.436	96	4.996	126	6.556	156	8.116	186	9.676	216	11.236
	67	3.488	97	5.048	127	6.608	157	8.168	187	9.728	217	11.288
	68	3.540	98	5.100	128	6.660	158	8.220	188	9.780	218	11.340
	69	3.592	99	5.152	129	6.712	159	8.272	189	9.832	219	11.392
	70	3.644	100	5.204	130	6.764	160	8.324	190	9.884	220	11.440
	71	3.696	101	5.256	131	6.816	161	8.376	191	9.936	221	11.496
	72	3.748	102	5.308	132	6.868	162	8.428	192	9.988	222	11.548
	73	3.800	103	5.360	133	6.920	163	8.480	193	10.040	223	11.600
	74	3.852	104	5.412	134	6.972	164	8.532	194	10.092	224	11.652
	75	3.904	105	5.464	135	7.024	165	8.584	195	10.144	225	11.704
	76	3.956	106	5.516	136	7.076	166	8.636	196	10.196	226	11.756
	77	4.008	107	5.568	137	7.128	167	8.688	197	10.248	227	11.808
	78	4.060	108	5.620	138	7.180	168	8.740	198	10.300	228	11.860
	79	4.112	109	5.672	139	7.232	169	8.792	199	10.352	229	11.912
	80	4.164	110	5.724	140	7.284	170	8.844	200	10.404	230	11.964
	81	4.216	111	5.776	141	7.336	171	8.896	201	10.456	231	12.016
	82	4.268	112	5.828	142	7.388	172	8.948	202	10.508	232	12.068
	83	4.320	113	5.880	143	7.440	173	9.000	203	10.560	233	12.120
	84	4.372	114	5.932	144	7.492	174	9.052	204	10.612	234	12.172
	85	4.424	115	5.984	145	7.544	175	9.104	205	10.664	235	12.224
	86	4.476	116	6.036	146	7.596	176	9.156	206	10.716	236	12.276
	87	4.528	117	6.088	147	7.648	177	9.208	207	10.768	237	12.328
	88	4.580	118	6.140	148	7.700	178	9.260	208	10.820	238	12.380
	89	4.632	119	6.192	149	7.752	179	9.312	209	10.872	239	12.432

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
8 or 11/64 @ 6.875 lbs. per sq. ft.	60	2.864	90	4.295	120	5.726	150	7.157	180	8.588	210	10.019
	61	2.911	91	4.342	121	5.773	151	7.204	181	8.635	211	10.066
	62	2.959	92	4.390	122	5.821	152	7.252	182	8.683	212	10.114
	63	3.007	93	4.438	123	5.869	153	7.300	183	8.731	213	10.162
	64	3.054	94	4.485	124	5.916	154	7.347	184	8.778	214	10.209
	65	3.102	95	4.533	125	5.964	155	7.395	185	8.826	215	10.257
	66	3.150	96	4.581	126	6.012	156	7.443	186	8.874	216	10.305
	67	3.198	97	4.629	127	6.060	157	7.491	187	8.922	217	10.353
	68	3.245	98	4.676	128	6.107	158	7.538	188	8.969	218	10.400
	69	3.293	99	4.724	129	6.155	159	7.586	189	9.017	219	10.448
	70	3.341	100	4.772	130	6.203	160	7.634	190	9.065	220	10.496
	71	3.388	101	4.819	131	6.250	161	7.681	191	9.112	221	10.543
	72	3.436	102	4.867	132	6.298	162	7.729	192	9.160	222	10.591
	73	3.484	103	4.915	133	6.346	163	7.777	193	9.208	223	10.639
	74	3.531	104	4.962	134	6.393	164	7.824	194	9.255	224	10.686
	75	3.579	105	5.010	135	6.441	165	7.872	195	9.303	225	10.734
	76	3.627	106	5.058	136	6.489	166	7.920	196	9.351	226	10.782
	77	3.675	107	5.106	137	6.537	167	7.968	197	9.399	227	10.830
	78	3.722	108	5.153	138	6.584	168	8.015	198	9.446	228	10.877
	79	3.770	109	5.201	139	6.632	169	8.063	199	9.494	229	10.925
	80	3.818	110	5.249	140	6.680	170	8.111	200	9.542	230	10.973
	81	3.865	111	5.296	141	6.727	171	8.158	201	9.589	231	11.020
	82	3.913	112	5.344	142	6.775	172	8.206	202	9.637	232	11.068
	83	3.961	113	5.392	143	6.823	173	8.254	203	9.685	233	11.116
	84	4.008	114	5.439	144	6.870	174	8.301	204	9.732	234	11.163
	85	4.056	115	5.487	145	6.918	175	8.349	205	9.780	235	11.211
	86	4.104	116	5.535	146	6.966	176	8.397	206	9.828	236	11.259
	87	4.152	117	5.583	147	7.014	177	8.445	207	9.876	237	11.307
	88	4.199	118	5.630	148	7.061	178	8.492	208	9.923	238	11.354
	89	4.247	119	5.678	149	7.109	179	8.540	209	9.971	239	11.402

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
9 or $\frac{5}{32}$″ @ 6.25 lbs. per sq. ft.	60	2.603	90	3.905	120	5.207	150	6.509	180	7.819	210	9.113
	61	2.647	91	3.949	121	5.259	151	6.553	181	7.855	211	9.157
	62	2.690	92	3.992	122	5.294	152	6.596	182	7.898	212	9.200
	63	2.733	93	4.035	123	5.337	153	6.639	183	7.941	213	9.243
	64	2.777	94	4.079	124	5.381	154	6.683	184	7.985	214	9.287
	65	2.820	95	4.122	125	5.424	155	6.726	185	8.028	215	9.330
	66	2.864	96	4.166	126	5.468	156	6.770	186	8.072	216	9.374
	67	2.907	97	4.209	127	5.511	157	6.813	187	8.115	217	9.417
	68	2.950	98	4.252	128	5.554	158	6.856	188	8.158	218	9.460
	69	2.994	99	4.296	129	5.598	159	6.900	189	8.202	219	9.504
	70	3.037	100	4.339	130	5.641	160	6.943	190	8.245	220	9.547
	71	3.081	101	4.383	131	5.685	161	6.987	191	8.289	221	9.591
	72	3.124	102	4.426	132	5.728	162	7.030	192	8.332	222	9.634
	73	3.167	103	4.469	133	5.771	163	7.073	193	8.375	223	9.677
	74	3.211	104	4.513	134	5.815	164	7.117	194	8.419	224	9.721
	75	3.254	105	4.556	135	5.858	165	7.160	195	8.462	225	9.764
	76	3.298	106	4.600	136	5.902	166	7.204	196	8.506	226	9.808
	77	3.341	107	4.643	137	5.945	167	7.247	197	8.549	227	9.851
	78	3.384	108	4.686	138	5.988	168	7.290	198	8.592	228	9.894
	79	3.428	109	4.730	139	6.032	169	7.334	199	8.636	229	9.938
	80	3.471	110	4.773	140	6.075	170	7.377	200	8.679	230	9.981
	81	3.515	111	4.817	141	6.119	171	7.421	201	8.723	231	10.025
	82	3.558	112	4.860	142	6.162	172	7.464	202	8.766	232	10.068
	83	3.601	113	4.903	143	6.205	173	7.507	203	8.809	233	10.111
	84	3.645	114	4.947	144	6.249	174	7.551	204	8.853	234	10.155
	85	3.688	115	4.990	145	6.292	175	7.594	205	8.896	235	10.198
	86	3.732	116	5.034	146	6.336	176	7.638	206	8.940	236	10.242
	87	3.775	117	5.077	147	6.379	177	7.691	207	8.983	237	10.285
	88	3.818	118	5.120	148	6.422	178	7.724	208	9.026	238	10.328
	89	3.862	119	5.164	149	6.466	179	7.768	209	9.070	239	10.372

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
10 or 9/64 (@) 5.625 lbs. per sq. ft.	60	2.343	90	3.513	120	4.683	150	5.853	180	7.023	210	8.193
	61	2.382	91	3.552	121	4.722	151	5.892	181	7.062	211	8.232
	62	2.421	92	3.591	122	4.761	152	5.931	182	7.101	212	8.271
	63	2.460	93	3.630	123	4.800	153	5.970	183	7.140	213	8.310
	64	2.499	94	3.669	124	4.839	154	6.009	184	7.179	214	8.349
	65	2.538	95	3.708	125	4.878	155	6.048	185	7.218	215	8.388
	66	2.577	96	3.747	126	4.917	156	6.087	186	7.257	216	8.427
	67	2.616	97	3.786	127	4.956	157	6.126	187	7.296	217	8.466
	68	2.655	98	3.825	128	4.995	158	6.165	188	7.335	218	8.505
	69	2.694	99	3.864	129	5.034	159	6.214	189	7.374	219	8.544
	70	2.733	100	3.903	130	5.073	160	6.243	190	7.413	220	8.583
	71	2.772	101	3.942	131	5.112	161	6.282	191	7.452	221	8.622
	72	2.819	102	3.981	132	5.151	162	6.321	192	7.491	222	8.661
	73	2.850	103	4.020	133	5.190	163	6.360	193	7.530	223	8.700
	74	2.889	104	4.059	134	5.229	164	6.399	194	7.569	224	8.739
	75	2.928	105	4.098	135	5.268	165	6.438	195	7.608	225	8.778
	76	2.967	106	4.137	136	5.307	166	6.477	196	7.647	226	8.817
	77	3.007	107	4.176	137	5.346	167	6.516	197	7.686	227	8.856
	78	3.045	108	4.215	138	5.385	168	6.555	198	7.725	228	8.895
	79	3.084	109	4.254	139	5.424	169	6.594	199	7.764	229	8.934
	80	3.123	110	4.293	140	5.463	170	6.633	200	7.803	230	8.973
	81	3.162	111	4.332	141	5.503	171	6.672	201	7.842	231	9.012
	82	3.201	112	4.371	142	5.541	172	6.711	202	7.881	232	9.051
	83	3.240	113	4.410	143	5.580	173	6.750	203	7.920	233	9.090
	84	3.279	114	4.449	144	5.619	174	6.789	204	7.959	234	9.129
	85	3.318	115	4.488	145	5.658	175	6.828	205	7.998	235	9.168
	86	3.357	116	4.527	146	5.697	176	6.867	206	8.037	236	9.207
	87	3.396	117	4.566	147	5.736	177	6.906	207	8.076	237	9.246
	88	3.435	118	4.605	148	5.775	178	6.945	208	8.115	238	9.285
	89	3.474	119	4.644	149	5.814	179	6.984	209	8.154	239	9.324

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
11 or ⅛″ @ 5 lbs. per sq. ft.	60	2.083	90	3.124	120	4.165	150	5.206	180	6.247	210	7.288
	61	2.117	91	3.158	121	4.199	151	5.240	181	6.281	211	7.322
	62	2.152	92	3.193	122	4.234	152	5.275	182	6.316	212	7.357
	63	2.187	93	3.228	123	4.269	153	5.310	183	6.351	213	7.392
	64	2.221	94	3.262	124	4.303	154	5.344	184	6.385	214	7.426
	65	2.256	95	3.297	125	4.338	155	5.379	185	6.420	215	7.461
	66	2.291	96	3.332	126	4.373	156	5.414	186	6.455	216	7.496
	67	2.325	97	3.366	127	4.407	157	5.448	187	6.489	217	7.530
	68	2.360	98	3.401	128	4.442	158	5.483	188	6.524	218	7.565
	69	2.395	99	3.436	129	4.477	159	5.518	189	6.559	219	7.600
	70	2.430	100	3.471	130	4.512	160	5.553	190	6.594	220	7.635
	71	2.464	101	3.505	131	4.546	161	5.587	191	6.628	221	7.669
	72	2.499	102	3.540	132	4.581	162	5.622	192	6.663	222	7.704
	73	2.534	103	3.575	133	4.616	163	5.657	193	6.698	223	7.739
	74	2.568	104	3.609	134	4.650	164	5.691	194	6.732	224	7.773
	75	2.603	105	3.644	135	4.685	165	5.726	195	6.767	225	7.808
	76	2.638	106	3.679	136	4.720	166	5.761	196	6.802	226	7.843
	77	2.672	107	3.713	137	4.754	167	5.795	197	6.836	227	7.877
	78	2.707	108	3.748	138	4.789	168	5.830	198	6.871	228	7.912
	79	2.742	109	3.783	139	4.824	169	5.865	199	6.906	229	7.947
	80	2.777	110	3.818	140	4.859	170	5.900	200	6.941	230	7.982
	81	2.811	111	3.852	141	4.893	171	5.934	201	6.975	231	8.016
	82	2.846	112	3.887	142	4.928	172	5.969	202	7.010	232	8.051
	83	2.881	113	3.922	143	4.963	173	6.004	203	7.045	233	8.086
	84	2.915	114	3.956	144	4.997	174	6.038	204	7.079	234	8.120
	85	2.950	115	3.991	145	5.032	175	6.073	205	7.114	235	8.155
	86	2.985	116	4.026	146	5.067	176	6.108	206	7.149	236	8.190
	87	3.019	117	4.060	147	5.101	177	6.142	207	7.183	237	8.224
	88	3.054	118	4.095	148	5.136	178	6.177	208	7.218	238	8.259
	89	3.089	119	4.130	149	5.171	179	6.212	209	7.253	239	8.294

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge: 12 or 7/64″ (a) 4.375 lbs. per sq. ft.

Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
60	1.822	90	2.731	120	3.640	150	4.549	180	5.458	210	6.367
61	1.852	91	2.761	121	3.670	151	4.579	181	5.488	211	6.397
62	1.883	92	2.792	122	3.701	152	4.610	182	5.519	212	6.428
63	1.913	93	2.822	123	3.731	153	4.640	183	5.549	213	6.458
64	1.943	94	2.852	124	3.761	154	4.670	184	5.579	214	6.488
65	1.974	95	2.883	125	3.792	155	4.701	185	5.610	215	6.519
66	2.004	96	2.913	126	3.822	156	4.731	186	5.640	216	6.549
67	2.034	97	2.943	127	3.852	157	4.761	187	5.670	217	6.579
68	2.065	98	2.974	128	3.883	158	4.792	188	5.701	218	6.610
69	2.095	99	3.004	129	3.913	159	4.822	189	5.731	219	6.640
70	2.125	100	3.034	130	3.943	160	4.852	190	5.761	220	6.670
71	2.155	101	3.064	131	3.973	161	4.882	191	5.791	221	6.700
72	2.186	102	3.095	132	4.004	162	4.913	192	5.822	222	6.731
73	2.216	103	3.125	133	4.034	163	4.943	193	5.852	223	6.761
74	2.246	104	3.155	134	4.064	164	4.973	194	5.882	224	6.791
75	2.277	105	3.186	135	4.095	165	5.004	195	5.913	225	6.822
76	2.307	106	3.216	136	4.125	166	5.034	196	5.943	226	6.852
77	2.337	107	3.246	137	4.155	167	5.064	197	5.973	227	6.882
78	2.368	108	3.277	138	4.186	168	5.095	198	6.004	228	6.913
79	2.398	109	3.307	139	4.216	169	5.125	199	6.034	229	6.943
80	2.428	110	3.337	140	4.246	170	5.155	200	6.064	230	6.973
81	2.458	111	3.367	141	4.276	171	5.185	201	6.094	231	7.003
82	2.489	112	3.398	142	4.307	172	5.216	202	6.125	232	7.034
83	2.519	113	3.428	143	4.337	173	5.246	203	6.155	233	7.064
84	2.549	114	3.458	144	4.367	174	5.276	204	6.185	234	7.094
85	2.580	115	3.489	145	4.398	175	5.307	205	6.216	235	7.125
86	2.610	116	3.519	146	4.428	176	5.337	206	6.246	236	7.155
87	2.640	117	3.549	147	4.458	177	5.367	207	6.276	237	7.185
88	2.671	118	3.580	148	4.489	178	5.398	208	6.307	238	7.216
89	2.701	119	3.610	149	4.519	179	5.428	209	6.337	239	7.246

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge: 13 or 3/32 (@) — 3.75 lbs. per sq. ft.

Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
60	1.562	90	2.342	120	3.122	150	3.902	180	4.682	210	5.462
61	1.588	91	2.368	121	3.148	151	3.928	181	4.708	211	5.488
62	1.614	92	2.394	122	3.174	152	3.954	182	4.734	212	5.514
63	1.640	93	2.420	123	3.200	153	3.980	183	4.760	213	5.540
64	1.666	94	2.446	124	3.226	154	4.006	184	4.786	214	5.566
65	1.692	95	2.472	125	3.252	155	4.032	185	4.812	215	5.592
66	1.718	96	2.498	126	3.278	156	4.058	186	4.838	216	5.618
67	1.744	97	2.524	127	3.304	157	4.084	187	4.864	217	5.644
68	1.770	98	2.550	128	3.330	158	4.110	188	4.890	218	5.670
69	1.796	99	2.576	129	3.356	159	4.136	189	4.916	219	5.696
70	1.822	100	2.602	130	3.382	160	4.162	190	4.942	220	5.722
71	1.848	101	2.628	131	3.408	161	4.188	191	4.968	221	5.748
72	1.874	102	2.654	132	3.434	162	4.215	192	4.994	222	5.774
73	1.900	103	2.680	133	3.460	163	4.240	193	5.020	223	5.800
74	1.926	104	2.706	134	3.486	164	4.266	194	5.046	224	5.826
75	1.952	105	2.732	135	3.512	165	4.292	195	5.072	225	5.852
76	1.978	106	2.758	136	3.538	166	4.318	196	5.098	226	5.878
77	2.004	107	2.784	137	3.564	167	4.344	197	5.124	227	5.904
78	2.030	108	2.810	138	3.590	168	4.370	198	5.150	228	5.930
79	2.056	109	2.836	139	3.616	169	4.396	199	5.176	229	5.956
80	2.082	110	2.862	140	3.642	170	4.422	200	5.202	230	5.982
81	2.108	111	2.888	141	3.668	171	4.448	201	5.228	231	6.008
82	2.134	112	2.914	142	3.694	172	4.474	202	5.254	232	6.034
83	2.160	113	2.940	143	3.720	173	4.500	203	5.280	233	6.060
84	2.186	114	2.966	144	3.746	174	4.526	204	5.316	234	6.086
85	2.212	115	2.992	145	3.772	175	4.552	205	5.332	235	6.112
86	2.238	116	3.018	146	3.798	176	4.578	206	5.358	236	6.138
87	2.264	117	3.044	147	3.824	177	4.604	207	5.384	237	6.164
88	2.290	118	3.070	148	3.850	178	4.630	208	5.410	238	6.190
89	2.316	119	3.096	149	3.876	179	4.656	209	5.436	239	6.216

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
14 or 5/64 @ 3.125 lbs. per sq. ft.	60	1.301	90	1.952	120	2.603	150	3.254	180	3.905	210	4.556
	61	1.323	91	1.974	121	2.625	151	3.276	181	3.927	211	4.578
	62	1.345	92	1.996	122	2.647	152	3.298	182	3.949	212	4.600
	63	1.366	93	2.017	123	2.668	153	3.319	183	3.970	213	4.621
	64	1.388	94	2.039	124	2.690	154	3.341	184	3.992	214	4.643
	65	1.410	95	2.061	125	2.712	155	3.363	185	4.014	215	4.665
	66	1.432	96	2.083	126	2.734	156	3.385	186	4.036	216	4.687
	67	1.453	97	2.104	127	2.755	157	3.406	187	4.057	217	4.708
	68	1.475	98	2.126	128	2.777	158	3.428	188	4.079	218	4.730
	69	1.497	99	2.148	129	2.799	159	3.450	189	4.101	219	4.752
	70	1.518	100	2.169	130	2.820	160	3.471	190	4.122	220	4.773
	71	1.540	101	2.191	131	2.842	161	3.493	191	4.144	221	4.795
	72	1.562	102	2.213	132	2.864	162	3.515	192	4.166	222	4.817
	73	1.583	103	2.234	133	2.885	163	3.536	193	4.187	223	4.838
	74	1.605	104	2.256	134	2.907	164	3.558	194	4.209	224	4.860
	75	1.627	105	2.278	135	2.929	165	3.580	195	4.231	225	4.882
	76	1.649	106	2.300	136	2.951	166	3.602	196	4.253	226	4.904
	77	1.670	107	2.321	137	2.972	167	3.623	197	4.274	227	4.925
	78	1.692	108	2.343	138	2.994	168	3.645	198	4.296	228	4.947
	79	1.714	109	2.365	139	3.016	169	3.667	199	4.318	229	4.969
	80	1.735	110	2.386	140	3.037	170	3.688	200	4.339	230	4.990
	81	1.757	111	2.408	141	3.059	171	3.710	201	4.361	231	5.012
	82	1.779	112	2.430	142	3.081	172	3.732	202	4.383	232	5.034
	83	1.800	113	2.451	143	3.102	173	3.753	203	4.404	233	5.055
	84	1.822	114	2.473	144	3.124	174	3.775	204	4.426	234	5.077
	85	1.844	115	2.495	145	3.146	175	3.797	205	4.448	235	5.099
	86	1.866	116	2.517	146	3.168	176	3.819	206	4.470	236	5.121
	87	1.887	117	2.538	147	3.189	177	3.840	207	4.491	237	5.142
	88	1.909	118	2.560	148	3.211	178	3.862	208	4.513	238	5.164
	89	1.931	119	2.582	149	3.233	179	3.884	209	4.535	239	5.186

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
15 9/128 or 2.8125 lbs. per sq. ft.	60	1.177	90	1.756	120	2.341	150	2.926	180	3.511	210	4.096
	61	1.191	91	1.776	121	2.361	151	2.946	181	3.531	211	4.116
	62	1.210	92	1.795	122	2.380	152	2.965	182	3.550	212	4.135
	63	1.230	93	1.815	123	2.400	153	2.985	183	3.570	213	4.155
	64	1.249	94	1.834	124	2.419	154	3.004	184	3.589	214	4.174
	65	1.269	95	1.854	125	2.439	155	3.024	185	3.609	215	4.194
	66	1.288	96	1.873	126	2.458	156	3.043	186	3.628	216	4.213
	67	1.308	97	1.893	127	2.478	157	3.063	187	3.648	217	4.233
	68	1.327	98	1.912	128	2.497	158	3.082	188	3.667	218	4.252
	69	1.347	99	1.932	129	2.517	159	3.102	189	3.687	219	4.272
	70	1.366	100	1.951	130	2.536	160	3.121	190	3.706	220	4.291
	71	1.386	101	1.971	131	2.556	161	3.141	191	3.726	221	4.311
	72	1.405	102	1.990	132	2.575	162	3.160	192	3.745	222	4.330
	73	1.425	103	2.010	133	2.595	163	3.180	193	3.765	223	4.350
	74	1.444	104	2.029	134	2.614	164	3.199	194	3.784	224	4.369
	75	1.464	105	2.049	135	2.634	165	3.219	195	3.804	225	4.389
	76	1.483	106	2.068	136	2.653	166	3.238	196	3.823	226	4.408
	77	1.503	107	2.088	137	2.673	167	3.258	197	3.843	227	4.428
	78	1.522	108	2.107	138	2.692	168	3.277	198	3.862	228	4.447
	79	1.542	109	2.127	139	2.712	169	3.297	199	3.882	229	4.467
	80	1.561	110	2.146	140	2.731	170	3.316	200	3.901	230	4.486
	81	1.581	111	2.166	141	2.751	171	3.336	201	3.921	231	4.506
	82	1.600	112	2.185	142	2.770	172	3.355	202	3.940	232	4.525
	83	1.620	113	2.205	143	2.790	173	3.375	203	3.960	233	4.545
	84	1.639	114	2.224	144	2.809	174	3.394	204	3.979	234	4.564
	85	1.659	115	2.244	145	2.829	175	3.414	205	3.999	235	4.584
	86	1.678	116	2.263	146	2.848	176	3.433	206	4.018	236	4.603
	87	1.698	117	2.283	147	2.868	177	3.453	207	4.038	237	4.623
	88	1.717	118	2.302	148	2.887	178	3.472	208	4.057	238	4.642
	89	1.737	119	2.322	149	2.907	179	3.492	209	4.077	239	4.662

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
16 or 1/16" @ 2.5 lbs. per sq. ft.	60	1.041	90	1.560	120	2.079	150	2.598	180	3.117	210	3.636
	61	1.058	91	1.577	121	2.096	151	2.615	181	3.134	211	3.653
	62	1.076	92	1.595	122	2.114	152	2.633	182	3.152	212	3.671
	63	1.093	93	1.612	123	2.131	153	2.650	183	3.169	213	3.688
	64	1.110	94	1.629	124	2.148	154	2.667	184	3.186	214	3.705
	65	1.128	95	1.647	125	2.166	155	2.685	185	3.204	215	3.723
	66	1.145	96	1.664	126	2.183	156	2.702	186	3.221	216	3.740
	67	1.162	97	1.681	127	2.200	157	2.719	187	3.238	217	3.757
	68	1.179	98	1.698	128	2.217	158	2.736	188	3.255	218	3.774
	69	1.197	99	1.716	129	2.235	159	2.754	189	3.273	219	3.792
	70	1.214	100	1.733	130	2.252	160	2.771	190	3.290	220	3.809
	71	1.231	101	1.750	131	2.269	161	2.788	191	3.307	221	3.826
	72	1.249	102	1.768	132	2.287	162	2.806	192	3.325	222	3.844
	73	1.266	103	1.785	133	2.304	163	2.823	193	3.342	223	3.861
	74	1.283	104	1.802	134	2.321	164	2.840	194	3.359	224	3.878
	75	1.301	105	1.820	135	2.339	165	2.858	195	3.377	225	3.896
	76	1.318	106	1.837	136	2.356	166	2.875	196	3.394	226	3.913
	77	1.335	107	1.854	137	2.373	167	2.892	197	3.411	227	3.930
	78	1.352	108	1.871	138	2.390	168	2.909	198	3.428	228	3.947
	79	1.370	109	1.889	139	2.408	169	2.927	199	3.446	229	3.965
	80	1.387	110	1.906	140	2.425	170	2.944	200	3.463	230	3.982
	81	1.404	111	1.923	141	2.442	171	2.961	201	3.480	231	3.999
	82	1.422	112	1.941	142	2.460	172	2.979	202	3.498	232	4.017
	83	1.439	113	1.958	143	2.477	173	2.996	203	3.515	233	4.034
	84	1.456	114	1.975	144	2.494	174	3.013	204	3.532	234	4.051
	85	1.474	115	1.993	145	2.512	175	3.031	205	3.550	235	4.069
	86	1.491	116	2.010	146	2.529	176	3.048	206	3.567	236	4.086
	87	1.508	117	2.027	147	2.546	177	3.065	207	3.584	237	4.103
	88	1.525	118	2.044	148	2.563	178	3.082	208	3.601	238	4.120
	89	1.543	119	2.062	149	2.581	179	3.100	209	3.619	239	4.138

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight	Length	Weight
17 or 9/10" @ 2.25 lbs. per sq. ft.	60	.937	90	1.405	120	1.873	150	2.341	180	2.809	210	3.277
	61	.952	91	1.420	121	1.888	151	2.356	181	2.824	211	3.292
	62	.968	92	1.436	122	1.904	152	2.372	182	2.840	212	3.308
	63	.984	93	1.452	123	1.920	153	2.388	183	2.856	213	3.324
	64	.999	94	1.467	124	1.935	154	2.403	184	2.871	214	3.339
	65	1.015	95	1.483	125	1.951	155	2.419	185	2.887	215	3.355
	66	1.030	96	1.498	126	1.966	156	2.434	186	2.902	216	3.370
	67	1.046	97	1.514	127	1.982	157	2.450	187	2.918	217	3.386
	68	1.062	98	1.530	128	1.998	158	2.466	188	2.934	218	3.402
	69	1.077	99	1.545	129	2.013	159	2.481	189	2.949	219	3.417
	70	1.093	100	1.561	130	2.029	160	2.497	190	2.965	220	3.433
	71	1.108	101	1.576	131	2.044	161	2.512	191	2.980	221	3.448
	72	1.124	102	1.592	132	2.060	162	2.528	192	2.996	222	3.464
	73	1.140	103	1.608	133	2.076	163	2.544	193	3.012	223	3.480
	74	1.155	104	1.623	134	2.091	164	2.559	194	3.027	224	3.495
	75	1.171	105	1.639	135	2.107	165	2.575	195	3.043	225	3.511
	76	1.186	106	1.654	136	2.122	166	2.590	196	3.058	226	3.526
	77	1.202	107	1.670	137	2.138	167	2.606	197	3.074	227	3.542
	78	1.218	108	1.686	138	2.154	168	2.622	198	3.090	228	3.558
	79	1.233	109	1.701	139	2.169	169	2.637	199	3.105	229	3.573
	80	1.249	110	1.717	140	2.185	170	2.653	200	3.121	230	3.589
	81	1.264	111	1.732	141	2.200	171	2.668	201	3.136	231	3.604
	82	1.280	112	1.748	142	2.216	172	2.684	202	3.152	232	3.620
	83	1.296	113	1.764	143	2.232	173	2.700	203	3.168	233	3.636
	84	1.311	114	1.779	144	2.247	174	2.715	204	3.183	234	3.651
	85	1.327	115	1.795	145	2.263	175	2.731	205	3.199	235	3.667
	86	1.342	116	1.810	146	2.278	176	2.746	206	3.214	236	3.682
	87	1.358	117	1.826	147	2.294	177	2.762	207	3.230	237	3.698
	88	1.374	118	1.842	148	2.310	178	2.778	208	3.246	238	3.714
	89	1.389	119	1.857	149	2.325	179	2.793	209	3.261	239	3.729

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
18	60	.833	90	1.249	120	1.666
or	61	.847	91	1.263	121	1.680
1/20″	62	.861	92	1.276	122	1.693
@	63	.874	93	1.290	123	1.707
2 lbs.	64	.888	94	1.304	124	1.721
per sq. ft.	65	.902	95	1.318	125	1.735
	66	.916	96	1.332	126	1.749
	67	.930	97	1.346	127	1.763
	68	.944	98	1.360	128	1.777
	69	.958	99	1.374	129	1.791
	70	.972	100	1.388	130	1.805
	71	.985	101	1.402	131	1.819
	72	1.000	102	1.415	132	1.832
	73	1.013	103	1.429	133	1.846
	74	1.027	104	1.443	134	1.860
	75	1.041	105	1.457	135	1.874
	76	1.055	106	1.471	136	1.888
	77	1.069	107	1.485	137	1.902
	78	1.083	108	1.499	138	1.916
	79	1.097	109	1.513	139	1.930
	80	1.111	110	1.527	140	1.944
	81	1.124	111	1.541	141	1.958
	82	1.137	112	1.554	142	1.971
	83	1.151	113	1.568	143	1.985
	84	1.165	114	1.582	144	2.000
	85	1.179	115	1.596	145	2.013
	86	1.193	116	1.610	146	2.275
	87	1.207	117	1.624	147	2.414
	88	1.221	118	1.638	148	2.553
	89	1.235	119	1.652	149	2.692
19	60	.729	90	1.093	120	1.458
or	61	.741	91	1.105	121	1.470
7/160″	62	.753	92	1.117	122	1.482
@	63	.765	93	1.130	123	1.494
1.75	64	.777	94	1.142	124	1.506
lbs.	65	.789	95	1.154	125	1.518
per sq. ft.	66	.802	96	1.166	126	1.531
	67	.814	97	1.178	127	1.543
	68	.826	98	1.190	128	1.555
	69	.838	99	1.202	129	1.567
	70	.850	100	1.215	130	1.579
	71	.862	101	1.227	131	1.591
	72	.874	102	1.239	132	1.603
	73	.887	103	1.251	133	1.616
	74	.899	104	1.263	124	1.628
	75	.911	105	1.275	135	1.640
	76	.923	106	1.288	136	1.652
	77	.935	107	1.300	137	1.664
	78	.947	108	1.312	138	1.676
	79	.959	109	1.324	139	1.688
	80	.972	110	1.336	140	1.701
	81	.984	111	1.348	141	1.713
	82	.996	112	1.360	142	1.725
	83	1.008	113	1.373	143	1.737
	84	1.020	114	1.385	144	1.749
	85	1.032	115	1.397	145	1.761
	86	1.045	116	1.409	146	1.774
	87	1.057	117	1.421	147	1.786
	88	1.069	118	1.433	148	1.798
	89	1.081	119	1.445	149	1.810

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
20	60	.624	90	.936	120	1.248
or	61	.635	91	.947	121	1.259
3/80″	62	.645	92	.957	122	1.269
@	63	.656	93	.968	123	1.280
1.5	64	.666	94	.978	124	1.290
lbs.	65	.676	95	.988	125	1.300
per sq. ft.	66	.687	96	.999	126	1.311
	67	.697	97	1.009	127	1.321
	68	.708	98	1.020	128	1.332
	69	.718	99	1.030	129	1.342
	70	.728	100	1.040	130	1.352
	71	.739	101	1.051	131	1.363
	72	.749	102	1.061	132	1.373
	73	.760	103	1.072	133	1.384
	74	.770	104	1.082	134	1.394
	75	.780	105	1.092	135	1.404
	76	.791	106	1.103	136	1.415
	77	.801	107	1.113	137	1.425
	78	.812	108	1.124	138	1.436
	79	.822	109	1.134	139	1.446
	80	.832	110	1.144	140	1.456
	81	.843	111	1.155	141	1.467
	82	.853	112	1.165	142	1.477
	83	.864	113	1.176	143	1.488
	84	.874	114	1.186	144	1.498
	85	.884	115	1.196	145	1.508
	86	.895	116	1.207	146	1.519
	87	.905	117	1.217	147	1.529
	88	.916	118	1.228	148	1.540
	89	.926	119	1.238	149	1.550
21	60	.572	90	.857	120	1.142
or	61	.582	91	.867	121	1.152
11/32″	62	.591	92	.876	122	1.161
@	63	.601	93	.886	123	1.171
1.375	64	.610	94	.895	124	1.180
lbs.	65	.620	95	.905	125	1.190
per sq. ft.	66	.629	96	.914	126	1.199
	67	.639	97	.924	127	1.209
	68	.648	98	.933	128	1.218
	69	.658	99	.943	129	1.228
	70	.667	100	.952	130	1.237
	71	.677	101	.962	131	1.247
	72	.686	102	.971	132	1.256
	73	.696	103	.981	133	1.266
	74	.705	104	.990	134	1.275
	75	.715	105	1.000	135	1.285
	76	.724	106	1.009	136	1.294
	77	.734	107	1.019	137	1.304
	78	.743	108	1.028	138	1.313
	79	.753	109	1.038	139	1.323
	80	.762	110	1.047	140	1.332
	81	.772	111	1.057	141	1.342
	82	.781	112	1.066	142	1.351
	83	.791	113	1.076	143	1.361
	84	.800	114	1.085	144	1.370
	85	.810	115	1.095	145	1.380
	86	.819	116	1.104	146	1.389
	87	.829	117	1.114	147	1.399
	88	.838	118	1.123	148	1.408
	89	.848	119	1.133	149	1.418

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
22	60	.520	90	.778	120	1.036
or	61	.529	91	.787	121	1.045
1/32″	62	.537	92	.795	122	1.053
@	63	.546	93	.804	123	1.062
1.25	64	.555	94	.813	124	1.071
lbs.	65	.563	95	.821	125	1.079
per sq. ft.	66	.572	96	.830	126	1.088
	67	.580	97	.838	127	1.096
	68	.589	98	.847	128	1.105
	69	.598	99	.856	129	1.114
	70	.606	100	.864	130	1.122
	71	.615	101	.873	131	1.131
	72	.673	102	.881	132	1.139
	73	.632	103	.890	133	1.148
	74	.641	104	.899	134	1.157
	75	.649	105	.907	135	1.165
	76	.658	106	.916	136	1.174
	77	.666	107	.924	137	1.182
	78	.675	108	.933	138	1.191
	79	.684	109	.942	139	1.200
	80	.692	110	.950	140	1.208
	81	.701	111	.959	141	1.217
	82	.709	112	.967	142	1.225
	83	.718	113	.976	143	1.234
	84	.727	114	.985	144	1.243
	85	.735	115	.993	145	1.251
	86	.744	116	1.002	146	1.260
	87	.752	117	1.010	147	1.268
	88	.761	118	1.019	148	1.277
	89	.770	119	1.028	149	1.286
23	60	.468	90	.702	120	.936
or	61	.476	91	.710	121	.944
9/320″	62	.484	92	.718	122	.952
@	63	.492	93	.726	123	.960
1.125	64	.499	94	.733	124	.967
lbs.	65	.507	95	.741	125	.975
per sq. ft.	66	.515	96	.749	126	.983
	67	.523	97	.757	127	.991
	68	.531	98	.765	128	.999
	69	.538	99	.772	129	1.006
	70	.546	100	.780	130	1.014
	71	.554	101	.788	131	1.022
	72	.562	102	.796	132	1.030
	73	.570	103	.804	133	1.038
	74	.577	104	.811	134	1.045
	75	.585	105	.819	135	1.053
	76	.592	106	.827	136	1.061
	77	.601	107	.835	137	1.069
	78	.609	108	.843	138	1.077
	79	.616	109	.850	139	1.084
	80	.624	110	.858	140	1.092
	81	.632	111	.866	141	1.100
	82	.640	112	.874	142	1.108
	83	.648	113	.882	143	1.116
	84	.655	114	.889	144	1.123
	85	.663	115	.897	145	1.131
	86	.671	116	.905	146	1.139
	87	.679	117	.913	147	1.147
	88	.687	118	.921	148	1.155
	89	.694	119	.928	149	1.162

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
24	60	.416	90	.623	120	.830
or	61	.423	91	.630	121	.837
1/40″	62	.430	92	.637	122	.844
@	63	.437	93	.644	123	.851
1 lb.	64	.444	94	.651	124	.858
per sq. ft.	65	.451	95	.658	125	.865
	66	.458	96	.665	126	.872
	67	.464	97	.671	127	.878
	68	.471	98	.678	128	.885
	69	.478	99	.685	129	.892
	70	.485	100	.692	130	.899
	71	.492	101	.699	131	.906
	72	.499	102	.706	132	.913
	73	.506	103	.713	133	.920
	74	.513	104	.720	134	.927
	75	.520	105	.727	135	.934
	76	.527	106	.734	136	.941
	77	.533	107	.740	137	.947
	78	.540	108	.747	138	.954
	79	.547	109	.754	139	.961
	80	.554	110	.761	140	.968
	81	.561	111	.768	141	.975
	82	.568	112	.775	142	.982
	83	.575	113	.782	143	.989
	84	.582	114	.789	144	.996
	85	.589	115	.796	145	1.003
	86	.596	116	.803	146	1.010
	87	.602	117	.809	147	1.016
	88	.609	118	.816	148	1.023
	89	.616	119	.823	149	1.030
25	60	.364	90	.544	120	.724
or	61	.370	91	.550	121	.730
7/320″	62	.376	92	.556	122	.736
@	63	.382	93	.562	123	.742
.875	64	.388	94	.568	124	.748
lbs.	65	.394	95	.574	125	.754
per sq. ft.	66	.400	96	.580	126	.760
	67	.406	97	.586	127	.766
	68	.412	98	.592	128	.772
	69	.418	99	.598	129	.778
	70	.424	100	.604	130	.784
	71	.430	101	.610	131	.790
	72	.436	102	.616	132	.796
	73	.442	103	.622	133	.802
	74	.448	104	.628	134	.808
	75	.454	105	.634	135	.814
	76	.460	106	.640	136	.820
	77	.466	107	.646	137	.826
	78	.472	108	.652	138	.832
	79	.478	109	.658	139	.838
	80	.484	110	.664	140	.844
	81	.490	111	.670	141	.850
	82	.496	112	.676	142	.856
	83	.502	113	.682	143	.862
	84	.508	114	.688	144	.868
	85	.514	115	.694	145	.874
	86	.520	116	.700	146	.880
	87	.526	117	.706	147	.886
	88	.532	118	.712	148	.892
	89	.538	119	.718	149	.898

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
26	60	.312	90	.468	120	.624
or	61	.317	91	.473	121	.629
3/160″	62	.322	92	.478	122	.634
@	63	.328	93	.484	123	.640
.75	64	.333	94	.489	124	.645
lbs.	65	.338	95	.494	125	.650
per sq. ft.	66	.343	96	.499	126	.655
	67	.348	97	.504	127	.660
	68	.354	98	.510	128	.666
	69	.359	99	.515	129	.671
	70	.364	100	.520	130	.676
	71	.369	101	.525	131	.681
	72	.374	102	.530	132	.686
	73	.380	103	.536	133	.692
	74	.385	104	.541	134	.697
	75	.390	105	.546	135	.702
	76	.395	106	.551	136	.707
	77	.400	107	.556	137	.712
	78	.406	108	.562	138	.718
	79	.411	109	.567	139	.723
	80	.416	110	.572	140	.728
	81	.421	111	.577	141	.733
	82	.426	112	.582	142	.738
	83	.432	113	.588	143	.744
	84	.437	114	.593	144	.749
	85	.442	115	.598	145	.754
	86	.447	116	.603	146	.759
	87	.452	117	.608	147	.764
	88	.458	118	.614	148	.770
	89	.463	119	.618	149	.775
27	60	.286	90	.427	120	.568
or	61	.291	91	.432	121	.573
11/640″	62	.295	92	.436	122	.577
@	63	.300	93	.441	123	.582
.6875	64	.305	94	.446	124	.587
lbs.	65	.309	95	.450	125	.591
per sq. ft.	66	.314	96	.455	126	.596
	67	.319	97	.460	127	.601
	68	.324	98	.465	128	.606
	69	.328	99	.469	129	.610
	70	.333	100	.474	130	.615
	71	.338	101	.479	131	.620
	72	.342	102	.483	132	.624
	73	.347	103	.488	133	.629
	74	.352	104	.493	134	.634
	75	.356	105	.497	135	.638
	76	.361	106	.502	136	.643
	77	.366	107	.507	137	.648
	78	.371	108	.512	138	.653
	79	.375	109	.516	139	.657
	80	.380	110	.521	140	.662
	81	.385	111	.526	141	.667
	82	.389	112	.530	142	.671
	83	.394	113	.535	143	.676
	84	.399	114	.540	144	.681
	85	.403	115	.544	145	.685
	86	.408	116	.549	146	.690
	87	.413	117	.554	147	.695
	88	.418	118	.559	148	.700
	89	.422	119	.563	149	.704

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
28	60	.260	90	.389	120	.518
or	61	.264	91	.393	121	.522
1/64″	62	.268	92	.397	122	.526
@	63	.273	93	.402	123	.531
.625	64	.277	94	.406	124	.535
lbs.	65	.281	95	.410	125	.539
per sq. ft.	66	.286	96	.415	126	.544
	67	.290	97	.419	127	.548
	68	.294	98	.423	128	.552
	69	.299	99	.428	129	.557
	70	.303	100	.432	130	.561
	71	.307	101	.436	131	.565
	72	.311	102	.440	132	.569
	73	.316	103	.445	133	.574
	74	.320	104	.449	134	.578
	75	.324	105	.453	135	.582
	76	.329	106	.458	136	.587
	77	.333	107	.462	137	.591
	78	.337	108	.466	138	.595
	79	.342	109	.471	139	.600
	80	.346	110	.475	140	.604
	81	.350	111	.479	141	.608
	82	.354	112	.483	142	.612
	83	.359	113	.488	143	.617
	84	.363	114	.492	144	.621
	85	.367	115	.496	145	.625
	86	.372	116	.501	146	.630
	87	.376	117	.505	147	.634
	88	.380	118	.509	148	.638
	89	.385	119	.514	149	.643
29	60	.234	90	.351	120	.468
or	61	.238	91	.355	121	.472
9/640″	62	.242	92	.359	122	.476
@	63	.246	93	.363	123	.480
.5625	64	.249	94	.366	124	.483
lbs.	65	.253	95	.370	125	.487
per sq. ft.	66	.257	96	.374	126	.491
	67	.261	97	.378	127	.495
	68	.265	98	.382	128	.499
	69	.269	99	.386	129	.503
	70	.273	100	.390	130	.507
	71	.277	101	.394	131	.511
	72	.281	102	.398	132	.515
	73	.285	103	.402	133	.519
	74	.288	104	.405	134	.522
	75	.292	105	.409	135	.526
	76	.296	106	.413	136	.530
	77	.300	107	.417	137	.534
	78	.304	108	.421	138	.538
	79	.308	109	.425	139	.542
	80	.312	110	.429	140	.546
	81	.316	111	.433	141	.550
	82	.320	112	.437	142	.554
	83	.324	113	.441	143	.558
	84	.327	114	.444	144	.561
	85	.331	115	.448	145	.565
	86	.335	116	.452	146	.569
	87	.339	117	.456	147	.573
	88	.343	118	.460	148	.577
	89	.347	119	.464	149	.581

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

WEIGHT TABLE FOR BLACK SHEETS AND PLATES—Continued

Gauge	Length	Weight	Length	Weight	Length	Weight
30	60	.208	90	.307	120	.406
or	61	.211	91	.310	121	.409
1/80″	62	.214	92	.313	122	.412
@	63	.218	93	.317	123	.416
.5 lbs.	64	.221	94	.320	124	.419
per sq. ft.	65	.224	95	.323	125	.422
	66	.228	96	.327	126	.426
	67	.231	97	.330	127	.429
	68	.234	98	.333	128	.432
	69	.238	99	.337	129	.436
	70	.241	100	.340	130	.439
	71	.244	101	.343	131	.442
	72	.247	102	.346	132	.445
	73	.251	103	.350	133	.449
	74	.254	104	.353	134	.452
	75	.257	105	.356	135	.455
	76	.261	106	.360	136	.459
	77	.264	107	.363	137	.462
	78	.267	108	.366	138	.465
	79	.271	109	.370	139	.469
	80	.274	110	.373	140	.472
	81	.277	111	.376	141	.475
	82	.280	112	.379	142	.478
	83	.284	113	.383	143	.482
	84	.287	114	.386	144	.485
	85	.290	115	.389	145	.488
	86	.294	116	.393	146	.492
	87	.297	117	.396	147	.495
	88	.300	118	.399	148	.498
	89	.304	119	.403	149	.502

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE
GALVANIZED SHEETS

This table is based on the theoretical weight of a strip of Galvanized Wrought Iron one inch wide. To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

EXAMPLE: Find the weight of a Galvanized Sheet No. 11 gauge, 30″ x 96″.

In the table for No. 11 gauge the weight shown opposite the length 96, is 3.437 lbs. (the weight of a strip of No. 11 gauge 1″ wide and 96″ long). Multiply this by 30 (the width of the sheet) and the result is 103.11, the estimated weight in pounds of a Galvanized Sheet, No. 11 gauge, 30″ x 96″.

No. 10 GAUGE						No. 11 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	2.890	96	3.854	120	4.817	72	2.578	96	3.437	120	4.296
73	2.930	97	3.894	121	4.857	73	2.613	97	3.473	121	4.332
74	2.97	98	3.934	122	4.897	74	2.649	98	3.508	122	4.368
75	3.01	99	3.974	123	4.938	75	2.685	99	3.544	123	4.404
76	3.05	100	4.014	124	4.978	76	2.721	100	3.580	124	4.439
77	3.09	101	4.054	125	5.018	77	2.756	101	3.616	125	4.475
78	3.13	102	4.094	126	5.058	78	2.793	102	3.651	126	4.511
79	3.17	103	4.135	127	5.098	79	2.828	103	3.688	127	4.547
80	3.21	104	4.175	128	5.138	80	2.864	104	3.723	128	4.583
81	3.25	105	4.215	129	5.178	81	2.900	105	3.759	129	4.618
82	3.29	106	4.255	130	5.219	82	2.935	106	3.795	130	4.654
83	3.33	107	4.295	131	5.258	83	2.971	107	3.831	131	4.690
84	3.37	108	4.335	132	5.299	84	3.008	108	3.867	132	4.726
85	3.412	109	4.375	133	5.339	85	3.043	109	3.902	133	4.762
86	3.452	110	4.416	134	5.379	86	3.079	110	3.938	134	4.798
87	3.492	111	4.455	135	5.419	87	3.115	111	3.974	135	4.833
88	3.532	112	4.496	136	5.459	88	3.150	112	4.010	136	4.869
89	3.573	113	4.536	137	5.50	89	3.186	113	4.045	137	4.905
90	3.613	114	4.576	138	5.539	90	3.222	114	4.082	138	4.940
91	3.653	115	4.616	139	5.58	91	3.258	115	4.117	139	4.977
92	3.693	116	4.657	140	5.620	92	3.294	116	4.153	140	5.012
93	3.733	117	4.697	141	5.66	93	3.329	117	4.189	141	5.048
94	3.773	118	4.736	142	5.700	94	3.365	118	4.224	142	5.084
95	3.813	119	4.777	143	5.741	95	3.401	119	4.260	143	5.120
				144	5.781					144	5.156

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE, GALVANIZED SHEETS—Continued

No. 12 GAUGE						No. 13 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	2.265	96	3.020	120	3.775	72	1.953	96	2.604	120	3.254
73	2.296	97	3.052	121	3.807	73	1.979	97	2.631	121	3.282
74	2.328	98	3.083	122	3.838	74	2.007	98	2.658	122	3.309
75	2.359	99	3.115	123	3.870	75	2.034	99	2.685	123	3.336
76	2.391	100	3.146	124	3.902	76	2.061	100	2.712	124	3.363
77	2.422	101	3.178	125	3.933	77	2.088	101	2.739	125	3.391
78	2.454	102	3.209	126	3.964	78	2.115	102	2.766	126	3.417
79	2.485	103	3.241	127	3.995	79	2.142	103	2.793	127	3.444
80	2.517	104	3.272	128	4.027	80	2.170	104	2.820	128	3.472
81	2.548	105	3.304	129	4.058	81	2.197	105	2.848	129	3.498
82	2.579	106	3.335	130	4.090	82	2.224	106	2.875	130	3.526
83	2.612	107	3.366	131	4.121	83	2.251	107	2.902	131	3.553
84	2.643	108	3.398	132	4.153	84	2.278	108	2.929	132	3.58
85	2.674	109	3.429	133	4.184	85	2.305	109	2.956	133	3.607
86	2.706	110	3.461	134	4.216	86	2.332	110	2.983	134	3.634
87	2.737	111	3.492	135	4.247	87	2.360	111	3.010	135	3.661
88	2.768	112	3.524	136	4.279	88	2.386	112	3.038	136	3.688
89	2.800	113	3.555	137	4.310	89	2.414	113	3.065	137	3.716
90	2.831	114	3.587	138	4.342	90	2.441	114	3.092	138	3.743
91	2.863	115	3.618	139	4.373	91	2.468	115	3.119	139	3.770
92	2.894	116	3.650	140	4.405	92	2.495	116	3.146	140	3.797
93	2.926	117	3.681	141	4.436	93	2.522	117	3.173	141	3.824
94	2.957	118	3.712	142	4.468	94	2.549	118	3.200	142	3.851
95	2.989	119	3.744	143	4.499	95	2.576	119	3.227	143	3.879
				144	4.531					144	3.906

No. 14 GAUGE						No. 15 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	1.640	96	2.187	120	2.734	72	1.484	96	1.979	120	2.474
73	1.663	97	2.210	121	2.757	73	1.504	97	1.999	121	2.494
74	1.686	98	2.233	122	2.779	74	1.525	98	2.02	122	2.515
75	1.708	99	2.255	123	2.802	75	1.546	99	2.041	123	2.536
76	1.731	100	2.278	124	2.825	76	1.567	100	2.061	124	2.556
77	1.754	101	2.301	125	2.848	77	1.587	101	2.082	125	2.577
78	1.777	102	2.323	126	2.870	78	1.608	102	2.102	126	2.597
79	1.799	103	2.346	127	2.893	79	1.628	103	2.123	127	2.618
80	1.822	104	2.369	128	2.916	80	1.649	104	2.144	128	2.639
81	1.845	105	2.392	129	2.939	81	1.670	105	2.164	129	2.659
82	1.868	106	2.415	130	2.962	82	1.690	106	2.185	130	2.68
83	1.891	107	2.438	131	2.984	83	1.711	107	2.206	131	2.700
84	1.914	108	2.460	132	3.007	84	1.732	108	2.226	132	2.721
85	1.936	109	2.483	133	3.030	85	1.752	109	2.247	133	2.742
86	1.959	110	2.506	134	3.053	86	1.773	110	2.268	134	2.762
87	1.982	111	2.528	135	3.075	87	1.793	111	2.288	135	2.783
88	2.005	112	2.551	136	3.098	88	1.814	112	2.309	136	2.804
89	2.027	113	2.574	137	3.121	89	1.835	113	2.329	137	2.824
90	2.050	114	2.597	138	3.144	90	1.855	114	2.350	138	2.845
91	2.073	115	2.62	139	3.167	91	1.876	115	2.371	139	2.865
92	2.096	116	2.643	140	3.189	92	1.896	116	2.391	140	2.886
93	2.118	117	2.665	141	3.212	93	1.917	117	2.412	141	2.907
94	2.141	118	2.688	142	3.235	94	1.938	118	2.432	142	2.927
95	2.164	119	2.711	143	3.258	95	1.958	119	2.453	143	2.948
				144	3.281					144	2.969

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE, GALVANIZED SHEETS—Continued

No. 16 GAUGE

Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	1.328	96	1.770	120	2.213
73	1.346	97	1.789	121	2.231
74	1.364	98	1.807	122	2.250
75	1.383	99	1.826	123	2.268
76	1.401	100	1.844	124	2.287
77	1.420	101	1.863	125	2.305
78	1.438	102	1.881	126	2.324
79	1.457	103	1.899	127	2.342
80	1.475	104	1.918	128	2.360
81	1.494	105	1.936	129	2.379
82	1.512	106	1.955	130	2.397
83	1.530	107	1.973	131	2.416
84	1.549	108	1.992	132	2.434
85	1.567	109	2.010	133	2.453
86	1.586	110	2.028	134	2.471
87	1.604	111	2.047	135	2.49
88	1.623	112	2.065	136	2.508
89	1.641	113	2.084	137	2.526
90	1.66	114	2.103	138	2.545
91	1.678	115	2.121	139	2.563
92	1.696	116	2.139	140	2.582
93	1.715	117	2.158	141	2.600
94	1.733	118	2.176	142	2.619
95	1.752	119	2.194	143	2.637
				144	2.656

No. 17 GAUGE

Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	1.203	96	1.604	120	2.004
73	1.219	97	1.620	121	2.021
74	1.236	98	1.637	122	2.038
75	1.253	99	1.654	123	2.055
76	1.269	100	1.670	124	2.071
77	1.286	101	1.687	125	2.088
78	1.303	102	1.704	126	2.105
79	1.319	103	1.721	127	2.121
80	1.336	104	1.737	128	2.138
81	1.353	105	1.754	129	2.155
82	1.369	106	1.771	130	2.172
83	1.387	107	1.787	131	2.188
84	1.406	108	1.804	132	2.205
85	1.420	109	1.821	133	2.222
86	1.436	110	1.837	134	2.239
87	1.453	111	1.854	135	2.255
88	1.470	112	1.871	136	2.272
89	1.487	113	1.887	137	2.289
90	1.504	114	1.904	138	2.305
91	1.521	115	1.921	139	2.322
92	1.537	116	1.938	140	2.339
93	1.553	117	1.954	141	2.355
94	1.570	118	1.971	142	2.372
95	1.587	119	1.988	143	2.389
				144	2.406

No. 18 GAUGE

Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	1.078	96	1.437	120	1.796
73	1.092	97	1.452	121	1.811
74	1.107	98	1.467	122	1.826
75	1.122	99	1.482	123	1.841
76	1.137	100	1.497	124	1.856
77	1.153	101	1.512	125	1.871
78	1.167	102	1.527	126	1.886
79	1.182	103	1.542	127	1.901
80	1.197	104	1.557	128	1.916
81	1.212	105	1.572	129	1.931
82	1.227	106	1.587	130	1.946
83	1.242	107	1.602	131	1.961
84	1.257	108	1.617	132	1.976
85	1.272	109	1.631	133	1.991
86	1.287	110	1.646	134	2.006
87	1.302	111	1.661	135	2.021
88	1.317	112	1.676	136	2.036
89	1.332	113	1.691	137	2.051
90	1.347	114	1.706	138	2.066
91	1.362	115	1.721	139	2.081
92	1.377	116	1.736	140	2.096
93	1.392	117	1.751	141	2.111
94	1.407	118	1.766	142	2.126
95	1.422	119	1.781	143	2.141
				144	2.156

No. 19 GAUGE

Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.953	96	1.270	120	1.588
73	.966	97	1.283	121	1.601
74	.979	98	1.297	122	1.614
75	.992	99	1.310	123	1.628
76	1.005	100	1.323	124	1.641
77	1.019	101	1.336	125	1.654
78	1.032	102	1.35	126	1.667
79	1.045	103	1.363	127	1.680
80	1.058	104	1.376	128	1.694
81	1.072	105	1.389	129	1.707
82	1.085	106	1.403	130	1.720
83	1.098	107	1.416	131	1.733
84	1.111	108	1.429	132	1.747
85	1.125	109	1.442	133	1.760
86	1.138	110	1.455	134	1.773
87	1.151	111	1.469	135	1.786
88	1.164	112	1.482	136	1.800
89	1.178	113	1.495	137	1.813
90	1.191	114	1.509	138	1.826
91	1.204	115	1.522	139	1.839
92	1.217	116	1.535	140	1.853
93	1.230	117	1.548	141	1.866
94	1.244	118	1.561	142	1.879
95	1.257	119	1.575	143	1.892
				144	1.906

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE, GALVANIZED SHEETS—Continued

No. 20 GAUGE						No. 21 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.828	96	1.104	120	1.379	72	.765	96	1.020	120	1.275
73	.839	97	1.115	121	1.391	73	.776	97	1.031	121	1.286
74	.851	98	1.127	122	1.403	74	.786	98	1.041	122	1.297
75	.862	99	1.138	123	1.414	75	.797	99	1.052	123	1.307
76	.874	100	1.149	124	1.425	76	.808	100	1.063	124	1.318
77	.885	101	1.161	125	1.437	77	.818	101	1.073	125	1.329
78	.897	102	1.172	126	1.449	78	.829	102	1.084	126	1.339
79	.908	103	1.184	127	1.460	79	.839	103	1.095	127	1.350
80	.92	104	1.195	128	1.472	80	.850	104	1.105	128	1.360
81	.931	105	1.207	129	1.483	81	.861	105	1.116	129	1.371
82	.942	106	1.218	130	1.495	82	.871	106	1.126	130	1.382
83	.954	107	1.230	131	1.506	83	.882	107	1.137	131	1.392
84	.966	108	1.242	132	1.518	84	.893	108	1.148	132	1.403
85	.977	109	1.253	133	1.529	85	.903	109	1.158	133	1.414
86	.988	110	1.265	134	1.541	86	.914	110	1.169	134	1.424
87	1.000	111	1.276	135	1.552	87	.924	111	1.179	135	1.435
88	1.011	112	1.288	136	1.563	88	.935	112	1.190	136	1.445
89	1.023	113	1.299	137	1.575	89	.946	113	1.201	137	1.456
90	1.035	114	1.311	138	1.586	90	.956	114	1.212	138	1.467
91	1.046	115	1.322	139	1.598	91	.967	115	1.222	139	1.477
92	1.058	116	1.334	140	1.609	92	.978	116	1.233	140	1.488
93	1.069	117	1.345	141	1.621	93	.988	117	1.243	141	1.499
94	1.081	118	1.356	142	1.632	94	.999	118	1.254	142	1.509
95	1.092	119	1.368	143	1.644	95	1.009	119	1.265	143	1.520
				144	1.656					144	1.531

No. 22 GAUGE						No. 23 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.703	96	.937	120	1.171	72	.640	96	.854	120	1.067
73	.713	97	.947	121	1.181	73	.649	97	.862	121	1.076
74	.722	98	.956	122	1.191	74	.658	98	.871	122	1.085
75	.732	99	.966	123	1.201	75	.667	99	.880	123	1.094
76	.742	100	.976	124	1.210	76	.676	100	.889	124	1.103
77	.751	101	.986	125	1.220	77	.684	101	.898	125	1.112
78	.761	102	.995	126	1.230	78	.693	102	.907	126	1.120
79	.771	103	1.005	127	1.239	79	.703	103	.916	127	1.129
80	.781	104	1.015	128	1.249	80	.711	104	.925	128	1.138
81	.791	105	1.025	129	1.259	81	.720	105	.934	129	1.147
82	.801	106	1.034	130	1.269	82	.729	106	.942	130	1.156
83	.810	107	1.044	131	1.279	83	.738	107	.951	131	1.165
84	.820	108	1.054	132	1.288	84	.747	108	.960	132	1.174
85	.829	109	1.064	133	1.298	85	.756	109	.969	133	1.183
86	.839	110	1.074	134	1.308	86	.765	110	.978	134	1.192
87	.849	111	1.083	135	1.318	87	.773	111	.987	135	1.200
88	.859	112	1.093	136	1.327	88	.782	112	.996	136	1.209
89	.869	113	1.103	137	1.337	89	.791	113	1.005	137	1.218
90	.878	114	1.113	138	1.347	90	.800	114	1.014	138	1.227
91	.888	115	1.122	139	1.357	91	.809	115	1.023	139	1.236
92	.898	116	1.132	140	1.366	92	.818	116	1.031	140	1.245
93	.907	117	1.142	141	1.376	93	.827	117	1.040	141	1.254
94	.917	118	1.152	142	1.386	94	.836	118	1.049	142	1.263
95	.927	119	1.161	143	1.396	95	.845	119	1.058	143	1.272
				144	1.406					144	1.281

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE, GALVANIZED SHEETS—Continued

No. 24 GAUGE						No. 25 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.578	96	.771	120	.963	72	.515	96	.687	120	.859
73	.585	97	.778	121	.971	73	.522	97	.694	121	.866
74	.593	98	.786	122	.979	74	.529	98	.701	122	.873
75	.602	99	.794	123	.987	75	.536	99	.708	123	.880
76	.610	100	.802	124	.995	76	.544	100	.715	124	.887
77	.618	101	.810	125	1.003	77	.551	101	.723	125	.894
78	.626	102	.818	126	1.011	78	.558	102	.730	126	.902
79	.634	103	.826	127	1.019	79	.565	103	.737	127	.909
80	.642	104	.834	128	1.027	80	.572	104	.744	128	.916
81	.650	105	.842	129	1.035	81	.579	105	.751	129	.923
82	.658	106	.850	130	1.043	82	.587	106	.758	130	.930
83	.666	107	.859	131	1.051	83	.594	107	.766	131	.937
84	.674	108	.867	132	1.059	84	.601	108	.773	132	.945
85	.682	109	.874	133	1.067	85	.608	109	.780	133	.952
86	.690	110	.883	134	1.075	86	.615	110	.787	134	.959
87	.698	111	.891	135	1.083	87	.622	111	.794	135	.966
88	.706	112	.899	136	1.091	88	.630	112	.802	136	.973
89	.714	113	.907	137	1.099	89	.637	113	.809	137	.980
90	.722	114	.915	138	1.107	90	.644	114	.816	138	.987
91	.730	115	.923	139	1.115	91	.651	115	.823	139	.995
92	.738	116	.931	140	1.123	92	.658	116	.830	140	1.002
93	.746	117	.939	141	1.131	93	.665	117	.837	141	1.009
94	.754	118	.947	142	1.139	94	.673	118	.844	142	1.016
95	.762	119	.955	143	1.148	95	.680	119	.852	143	1.023
				144	1.156					144	1.031

No. 26 GAUGE						No. 27 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.453	96	.604	120	.754	72	.422	96	.562	120	.703
73	.459	97	.610	121	.761	73	.427	97	.568	121	.709
74	.465	98	.616	122	.767	74	.433	98	.574	122	.715
75	.471	99	.622	123	.773	75	.439	99	.580	123	.721
76	.478	100	.629	124	.780	76	.445	100	.586	124	.726
77	.484	101	.635	125	.786	77	.451	101	.592	125	.732
78	.490	102	.641	126	.792	78	.457	102	.597	126	.738
79	.497	103	.648	127	.799	79	.463	103	.604	127	.744
80	.503	104	.654	128	.805	80	.468	104	.609	128	.750
81	.509	105	.660	129	.811	81	.474	105	.615	129	.756
82	.515	106	.666	130	.817	82	.480	106	.621	130	.761
83	.524	107	.673	131	.824	83	.486	107	.627	131	.767
84	.528	108	.679	132	.830	84	.492	108	.633	132	.773
85	.534	109	.685	133	.836	85	.498	109	.638	133	.779
86	.541	110	.692	134	.843	86	.504	110	.644	134	.785
87	.547	111	.698	135	.849	87	.509	111	.650	135	.791
88	.553	112	.704	136	.855	88	.515	112	.656	136	.797
89	.559	113	.710	137	.861	89	.521	113	.662	137	.803
90	.566	114	.717	138	.868	90	.527	114	.668	138	.808
91	.572	115	.723	139	.874	91	.533	115	.674	139	.814
92	.578	116	.729	140	.880	92	.539	116	.679	140	.820
93	.585	117	.736	141	.887	93	.545	117	.685	141	.826
94	.591	118	.742	142	.893	94	.550	118	.691	142	.832
95	.597	119	.748	143	.899	95	.556	119	.697	143	.838
				144	.906					144	.844

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

CONVENIENT WEIGHT TABLE, GALVANIZED SHEETS—Continued

No. 28 GAUGE						No. 29 GAUGE					
Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.390	96	.520	120	.650	72	.359	96	.479	120	.599
73	.395	97	.526	121	.656	73	.364	97	.484	121	.604
74	.401	98	.531	122	.661	74	.369	98	.489	122	.609
75	.406	99	.536	123	.667	75	.374	99	.494	123	.614
76	.412	100	.542	124	.672	76	.379	100	.499	124	.619
77	.417	101	.547	125	.677	77	.384	101	.504	125	.624
78	.423	102	.553	126	.683	78	.389	102	.509	126	.629
79	.428	103	.558	127	.688	79	.394	103	.514	127	.634
80	.433	104	.564	128	.694	80	.399	104	.519	128	.639
81	.439	105	.569	129	.699	81	.404	105	.524	129	.644
82	.444	106	.574	130	.705	82	.409	106	.529	130	.649
83	.450	107	.580	131	.710	83	.414	107	.534	131	.654
84	.455	108	.585	132	.715	84	.419	108	.539	132	.659
85	.461	109	.591	133	.721	85	.424	109	.544	133	.664
86	.466	110	.596	134	.726	86	.429	110	.549	134	.669
87	.472	111	.602	135	.732	87	.434	111	.554	135	.674
88	.477	112	.607	136	.737	88	.439	112	.559	136	.679
89	.482	113	.612	137	.743	89	.444	113	.564	137	.684
90	.488	114	.618	138	.748	90	.449	114	.569	138	.689
91	.493	115	.623	139	.753	91	.454	115	.574	139	.694
92	.498	116	.629	140	.759	92	.459	116	.579	140	.699
93	.504	117	.634	141	.764	93	.464	117	.584	141	.704
94	.509	118	.639	142	.770	94	.469	118	.589	142	.709
95	.515	119	.645	143	.775	95	.474	119	.594	143	.714
				144	.781					144	.719

No. 30 GAUGE

Lth.	Wt.	Lth.	Wt.	Lth.	Wt.
72	.328	96	.437	120	.546
73	.332	97	.441	121	.551
74	.337	98	.446	122	.555
75	.341	99	.451	123	.560
76	.346	100	.455	124	.564
77	.350	101	.460	125	.569
78	.353	102	.464	126	.574
79	.359	103	.469	127	.578
80	.364	104	.473	128	.583
81	.369	105	.478	129	.587
82	.373	106	.482	130	.592
83	.378	107	.487	131	.596
84	.382	108	.492	132	.601
85	.387	109	.496	133	.605
86	.391	110	.501	134	.610
87	.396	111	.505	135	.615
88	.400	112	.510	136	.619
89	.405	113	.514	137	.624
90	.410	114	.519	138	.628
91	.414	115	.523	139	.633
92	.419	116	.528	140	.637
93	.423	117	.533	141	.642
94	.428	118	.537	142	.646
95	.432	119	.542	143	.651
					.656

To find the weight of a sheet of a given size multiply the number in the weight column found opposite the length of the sheet by the width of the sheet.

BUNDLING TABLE FOR BLACK SHEETS

Gauges: 10 (Wt. per sq. ft. (oz.) 90; Wt. per sq. ft. (lbs.) 5.625), 11 (80; 5), 12 (70; 4.375), 13 (60; 3.75), 14 (50; 3.125), 15 (42.4; 2.65), 16 (40; 2.5)

Size of Sheet Inches	10 Wt. of Sheets	10 No. of Sheets	10 Wt. of Bundle	11 Wt. of Sheets	11 No. of Sheets	11 Wt. of Bundle	12 Wt. of Sheets	12 No. of Sheets	12 Wt. of Bundle	13 Wt. of Sheets	13 No. of Sheets	13 Wt. of Bundle	14 Wt. of Sheets	14 No. of Sheets	14 Wt. of Bundle	15 Wt. of Sheets	15 No. of Sheets	15 Wt. of Bundle	16 Wt. of Sheets	16 No. of Sheets	16 Wt. of Bundle	Square feet per Sheet
24x72	67.5	2	135	60	3	180	52.5	3	157	45	3	135	37.50	4	150	33.75	4	135	30	5	150	12
26x72	73.13	2	146	65	2	130	56.88	3	171	48.75	3	146	40.63	4	162	36.56	4	146	32.50	5	162	13
28x72	78.75	2	157	70	2	140	61.25	2	122	52.50	3	157	43.75	3	131	39.37	4	157	35	4	140	14
30x72	84.38	2	169	75	2	150	65.63	2	131	56.25	3	169	46.88	3	141	42.19	4	169	37.50	4	150	15
36x72	101.25			90	2	180	78.75	2	157	67.50	2	135	56.25	3	169	50.63	3	152	45	3	135	18
24x84	78.75	2	157	70	2	140	61.25	2	122	52.50	3	157	43.75	3	131	39.38	4	157	35	4	140	14
26x84	85.31	2	171	75.83	2	152	66.35	2	133	56.88	3	171	47.40	3	142	42.66	3	128	37.92	4	152	15.16
28x84	91.88	2	184	81.67	2	163	71.46	2	143	61.25	2	122	51.04	3	153	45.94	3	138	40.83	4	163	16.33
30x84	98.44			87.50	2	175	76.56	2	153	65.63	2	131	54.69	3	164	49.22	3	148	43.75	3	131	17.50
36x84	118.13			105			91.88	2	184	78.75	2	157	65.63	2	131	59.06	2	118	52.50	3	157	21
24x96	90	2	180	80	2	160	70	2	140	60	2	120	50.00	3	150	45	3	135	40	4	160	16
26x96	97.5	2	195	86.67	2	173	75.83	2	152	65	2	130	54.17	3	162	48.75	3	146	43.33	3	130	17.33
28x96	105			93.33	2	187	81.67	2	163	70	2	140	58.33	3	175	52.50	3	157	46.67	3	140	18.66
30x96	112.5			100			87.50	2	175	75	2	150	62.50	2	125	56.25	3	169	50	3	150	20
36x96	135			120			105			90			75	2	180	67.50	2	135	60	2	120	24
24x120	112.5			100			87.50	2	175	75	2	150	62.50	2	125	56.25	3	169	50	3	150	20
26x120	121.88			108.33			94.79	2	198	81.25	2	162	67.71	2	135	60.94	2	122	54.17	3	162	21.66
28x120	131.25			116.67			102.08			87.50	2	175	72.92	2	146	65.63	2	131	58.33	3	175	23.33
30x120	140.63			125			109.38			93.75	2	187	78.13	2	156	70.31	2	141	62.50	2	125	25
36x120	168.75			150			131.25			112.50			93.75	2	187	84.38	2	169	75	2	150	30

BUNDLING TABLE FOR BLACK SHEETS—Continued

Gauge	17	18	19	20	21.5	22	23
Wt. per sq. ft. (oz.)	36	32	28	24	21.5	20	18
Wt. per sq. ft. (lbs.)	2.25	2	1.75	1.5	1.34	1.25	1.125

Size of Sheet Inches	17 Wt. of Sheets	17 No. of Sheets	17 Wt. of Bundle	18 Wt. of Sheets	18 No. of Sheets	18 Wt. of Bundle	19 Wt. of Sheets	19 No. of Sheets	19 Wt. of Bundle	20 Wt. of Sheets	20 No. of Sheets	20 Wt. of Bundle	21.5 Wt. of Sheets	21.5 No. of Sheets	21.5 Wt. of Bundle	22 Wt. of Sheets	22 No. of Sheets	22 Wt. of Bundle	23 Wt. of Sheets	23 No. of Sheets	23 Wt. of Bundle	23 Square feet per Sheet
24x 72	27	6	162	24	6	144	21	7	147	18	8	144	16.50	9	148	15	10	150	13.50	11	148	12
26x 72	29.25	5	146	26	6	156	22.75	7	159	19.50	8	156	17.88	8	143	16.25	9	146	14.63	10	146	13
28x 72	31.50	5	157	28	5	140	24.50	6	147	21	7	147	19.25	8	154	17.50	8	140	15.75	9	142	14
30x 72	33.75	4	135	30	5	150	26.25	6	157	22.50	7	157	20.63	7	144	18.75	8	150	16.88	9	152	15
36x 72	40.50	4	162	36	4	144	31.50	5	157	27	5	135	24.75	6	148	22.50	7	157	20.25	7	142	18
24x 84	31.50	5	157	28	5	140	24.5	6	147	21	7	147	19.25	8	154	17.50	8	140	15.75	9	142	14
26x 84	34.13	4	136	30.33	5	152	26.54	6	159	22.75	7	159	20.85	7	146	18.96	8	152	17.06	9	153	15.16
28x 84	36.75	4	147	32.67	5	163	28.58	5	143	24.50	6	147	22.46	7	157	20.42	7	143	18.37	8	147	16.33
30x 84	39.38	4	157	35	4	140	30.63	5	153	26.25	6	157	24.06	6	144	21.88	7	153	19.69	8	157	17.50
36x 84	47.25	3	142	42	4	168	36.75	4	147	31.50	5	157	28.88	5	144	26.25	6	157	23.63	6	142	21
24x 96	36	4	144	32	5	160	28	5	140	24	6	144	22	7	154	20	7	140	18	8	144	16
26x 96	39	4	156	34.67	4	139	30.33	5	152	26	6	156	23.83	6	143	21.67	7	152	19.50	8	156	17.33
28x 96	42	4	168	37.33	4	149	32.67	5	163	28	5	140	25.67	6	154	23.33	6	140	21	7	147	18.66
30x 96	45	3	135	40	4	160	35	4	140	30	5	150	27.50	6	165	25	6	150	22.50	7	157	20
36x 96	54	3	162	48	3	144	42	4	168	36	4	144	33	5	165	30	5	150	27	6	162	24
24x120	45	3	135	40	4	160	35	4	140	30	5	150	27.50	5	137	25	6	150	22.50	7	157	20
26x120	48.75	3	146	43.33	3	130	37.92	4	152	32.50	5	162	29.79	5	149	27.08	6	162	24.37	6	146	21.66
28x120	52.50	3	157	46.67	3	140	40.83	4	163	35	4	140	32.08	5	160	29.17	5	146	26.25	6	157	23.33
30x120	56.25	3	169	50	3	150	43.75	3	131	37.50	4	150	34.37	4	137	31.25	5	156	28.12	5	141	25
36x120	67.50	2	135	60	2	120	52.50	3	157	45	3	135	41.20	4	165	37.50	4	150	33.75	5	169	30

BUNDLING TABLE FOR BLACK SHEETS—Continued

Size of Sheet Inches	Gauge 24 — Wt. per sq. ft. (oz) 16 — Wt. per sq. ft. (lbs) 1			Gauge 25 — 14 — .875			Gauge 26 — 12 — .75			Gauge 27 — 11.04 — .69			Gauge 28 — 10 — .625			Gauge 29 — 9 — .5625			Gauge 30 — 8 — .5			Square feet per Sheet
	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	Wt. of Sheets	No. of Sheets	Wt. of Bundle	
24x 72	12	12	144	10.50	14	147	9	16	144	8.25	18	148	7.50	20	150	6.75	22	148	6	25	150	12
26x 72	13	11	143	11.38	13	148	9.75	15	146	8.94	16	143	8.13	18	146	7.31	20	146	6.50	23	149	13
28x 72	14	11	154	12.25	12	147	10.50	14	147	9.63	16	154	8.75	17	148	7.88	19	150	7	21	147	14
30x 72	15	10	150	13.13	11	144	11.25	13	146	10.31	14	144	9.38	16	150	8.44	18	152	7.50	20	150	15
36x 72	18	8	144	15.75	9	142	13.50	11	148	12.38	12	148	11.25	13	146	10.13	15	152	9	16	144	18
24x 84	14	11	154	12.25	12	147	10.50	14	147	9.63	15	144	8.75	17	149	7.88	19	150	7	21	147	14
26x 84	15.16	10	152	13.27	11	146	11.38	13	148	10.43	14	146	9.48	16	152	8.53	17	145	7.58	19	144	15.16
28x 84	16.33	9	147	14.29	10	143	12.25	12	147	11.23	13	146	10.21	16	143	9.19	16	147	8.17	19	155	16.33
30x 84	17.50	8	140	15.31	10	153	13.13	11	144	12.03	12	144	10.94	14	153	9.84	15	148	8.75	17	149	17.50
36x 84	21	7	147	18.38	8	147	15.75	9	142	14.44	10	144	13.13	11	144	11.81	13	153	10.50	14	147	21
24x 96	16	9	144	14	10	140	12	12	144	11	13	143	10	15	150	9	16	144	8	18	144	16
26x 96	17.33	9	156	15.17	10	152	13	11	143	11.92	12	143	10.83	14	152	9.75	15	146	8.67	17	147	17.33
28x 96	18.67	8	149	16.33	9	147	14	11	154	12.83	12	154	11.67	13	152	10.50	14	147	9.33	16	149	18.66
30x 96	20	7	140	17.50	8	140	15	10	150	13.75	11	151	12.50	12	150	11.25	13	146	10	15	150	20
36x 96	24	6	144	21	7	147	18	8	144	16.50	9	148	15	10	150	13.50	11	148	12	12	144	24
24x120	20	7	140	17.50	8	140	15	10	150	13.75	11	151	12.50	12	150	11.25	13	146	10	15	150	20
26x120	21.67	7	152	18.96	8	152	16.25	9	146	14.90	10	149	13.54	11	149	12.19	12	144	10.83	14	152	21.66
28x120	23.33	6	140	20.42	7	143	17.50	8	140	16.04	9	144	14.58	10	146	13.13	11	144	11.67	13	163	22.33
30x120	25	6	150	21.88	7	153	18.75	8	150	17.19	9	155	15.63	10	156	14.06	11	155	12.50	12	150	25
36x120	30	5	150	26.25	6	157	22.50	7	157	20.63	8	165	18.75	8	150	16.88	9	152	15	10	150	30

BUNDLING TABLE FOR GALVANIZED SHEETS

Size of Sheets Inches	Gauge 10 — 92.5 / 5.781			Gauge 11 — 82.5 / 5.156			Gauge 12 — 72.5 / 4.531			Gauge 13 — 62.5 / 3.906			Gauge 14 — 52.5 / 3.281			Gauge 15 — 47.5 / 2.969			Gauge 16 — 42.5 / 2.656			Square feet per Sheet
	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	
24x 72	69.37	2	139	61.87	3	186	54.37	3	163	46.87	3	141	39.37	4	157	35.62	4	142	31.87	5	159	12.
26x 72	75.16	2	150	67.03	2	134	58.91	3	177	50.78	3	152	42.66	4	171	38.59	4	154	34.53	4	138	13.
28x 72	80.94	2	162	72.19	2	144	63.44	2	127	54.69	3	164	45.94	3	138	41.56	4	166	37.19	4	149	14.
30x 72	86.72	2	173	77.34	2	155	67.97	2	136	58.59	3	176	49.22	3	148	44.53	3	134	39.84	4	159	15.
36x 72	104.06			92.81	2	186	81.56	2	163	70.31	2	141	59.06	3	177	53.44	3	160	47.81	3	143	18.
24x 84	80.94	2	162	72.19	2	144	63.44	2	127	54.69	3	164	45.94	3	138	41.56	4	166	37.19	4	149	14.
26x 84	87.64	2	175	78.17	2	156	68.69	2	137	59.22	3	178	49.74	3	149	45.01	3	135	40.27	4	161	15.16
28x 84	94.41	2	189	84.20	2	168	74.00	2	148	63.79	3	191	53.58	3	161	48.48	3	145	43.38	4	174	16.33
30x 84	101.17			90.23	2	180	79.30	2	159	68.36	2	137	57.42	3	172	51.95	3	156	46.48	3	139	17.50
36x 84	121.41			108.28			95.16	2	190	82.03	2	164	68.91	2	138	62.34	2	125	55.78	3	167	21.
24x 96	92.50	2	185	82.50	2	165	72.50	2	145	62.50	2	125	52.50	3	157	47.50	3	142	42.50	4	170	16.
26x 96	100.19			89.36	2	179	78.53	2	157	67.70	2	135	56.86	3	171	51.45	3	154	46.03	3	138	17.33
28x 96	107.88			96.22	2	192	84.55	2	169	72.89	2	146	61.23	3	184	55.40	3	166	49.57	3	149	18.66
30x 96	115.62			103.12			90.62	2	181	78.12	2	156	65.62	2	131	59.37	3	178	53.12	3	159	20.
36x 96	138.75			123.75			108.75			93.75	2	187	78.75	2	157	71.25	2	142	63.75	2	127	24.
24x120	115.62			103.12			90.62	2	181	78.12	2	156	65.62	2	131	59.37	3	178	53.12	3	159	20.
26x120	125.22			111.68			98.15	2	196	84.61	2	169	71.07	2	142	64.30	2	129	57.53	3	173	21.63
28x120	134.88			120.30			105.71			91.13	2	182	76.55	2	153	69.26	2	139	61.97	3	186	23.36
30x120	144.53			128.91			113.28			97.66	2	195	82.03	2	164	74.22	2	148	66.41	3	133	25.
36x120	173.44			154.69			135.94			117.19			98.44	2	197	89.06	2	178	79.69	2	159	30.

BUNDLING TABLE FOR GALVANIZED SHEETS—Continued

Gauge	17			18			19			20			21			22			23			
Wt. per sq. ft. (oz.)	38.5			34.5			30.5			26.5			24.5			22.5			20.5			
Wt. per sq. ft.(lbs.)	2.406			2.156			1.906			1.656			1.531			1.406			1.281			
Size of Sheets Inches	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Square feet per Sheet
24x 72	28.87	5	144	25.87	6	155	22.87	7	160	19.87	8	159	18.37	8	147	16.87	9	152	15.37	10	154	12
26x 72	31.28	5	156	28.03	5	140	24.78	6	149	21.53	7	151	19.91	8	159	18.28	8	146	16.66	9	150	13
28x 72	33.69	5	168	30.19	5	151	26.69	6	160	23.19	7	162	21.44	7	150	19.69	8	158	17.94	8	144	14
30x 72	36.09	4	144	32.34	5	162	28.59	5	143	24.84	6	149	22.97	7	161	21.09	7	148	19.22	8	154	15
36x 72	43.31	4	173	38.81	4	155	34.31	4	137	29.81	5	149	27.56	6	165	25.31	6	152	23.06	7	161	18
24x 84	33.69	5	168	30.19	5	151	26.69	6	160	23.19	7	162	21.44	7	150	19.69	8	158	17.94	8	144	14
26x 84	36.48	4	146	32.69	5	163	28.90	5	144	25.11	6	151	23.21	7	162	21.32	7	149	19.42	8	155	15.16
28x 84	39.29	4	157	35.21	4	141	31.13	5	156	27.05	5	135	25.01	6	150	22.96	7	161	20.92	7	146	16.33
30x 84	42.11	4	168	37.73	4	151	33.36	5	167	28.98	5	145	26.80	6	161	24.61	6	148	22.42	7	157	17.50
36x 84	50.53	3	152	45.28	3	136	40.03	4	160	34.78	4	139	32.16	5	161	29.53	5	148	26.91	6	161	21
24x 96	38.50	4	154	34.50	4	138	30.50	5	152	26.50	6	159	24.50	6	147	22.50	7	157	20.50	7	143	16
26x 96	41.70	4	167	37.37	4	149	33.04	5	165	28.70	5	143	26.54	6	159	24.37	6	146	22.20	7	155	17.33
28x 96	44.90	4	180	40.24	4	161	35.57	4	142	30.91	5	155	28.57	5	143	26.24	6	157	23.91	6	143	18.66
30x 96	48.12	3	144	43.12	4	172	38.12	4	152	33.12	5	166	30.62	5	153	28.12	5	141	25.62	6	154	20
36x 96	57.75	3	173	51.75	3	155	45.75	3	137	39.75	4	159	36.75	4	147	33.75	5	169	30.75	5	154	24
24x120	48.12	3	144	43.12	3	129	38.12	4	152	33.12	5	166	30.62	5	153	28.12	5	141	25.62	6	154	20
26x120	52.12	3	156	46.70	3	140	41.29	4	165	35.87	4	143	33.17	5	166	30.46	5	152	27.75	6	166	21.66
28x120	56.14	3	168	50.31	3	151	44.47	3	133	38.64	4	155	35.72	4	143	32.81	5	164	29.89	5	149	23.33
30x120	60.16	3	180	53.91	3	162	47.66	3	143	41.41	4	166	38.28	4	153	35.16	4	141	32.03	5	160	25
36x120	72.19	2	144	64.69	2	129	57.19	3	172	49.69	3	149	45.94	3	138	42.19	4	169	38.44	4	154	30

BUNDLING TABLE FOR GALVANIZED SHEETS—Continued

Size of Sheets Inches	24 / 18.5 / 1.406			25 / 16.5 / 1.031			26 / 14.5 / .9062			27 / 13.5 / .8437			28 / 12.5 / .7812			29 / 11.5 / .7187			30 / 10.5 / .6562			
	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Wt. of Sheet	No. of Sheets	Wt. of Bundle	Square feet per Sheet
24x72	13.87	11	153	12.37	12	148	10.87	14	152	10.12	15	152	9.37	16	150	8.62	17	147	7.87	19	150	12
26x72	15.03	10	150	13.41	11	148	11.78	13	153	10.97	14	154	10.16	15	152	9.34	16	149	8.53	17	145	13
28x72	16.19	9	146	14.44	11	159	12.69	12	152	11.81	13	154	10.94	14	153	10.06	15	151	9.19	16	147	14
30x72	17.34	9	156	15.47	10	155	13.59	11	149	12.66	12	152	11.72	13	152	10.78	15	162	9.84	15	148	15
36x72	20.81	7	146	18.56	8	148	16.31	9	147	15.19	10	152	14.06	11	155	12.94	12	155	11.81	13	154	18
24x84	16.19	9	146	14.44	11	159	12.69	12	152	11.81	13	154	10.94	14	153	10.06	15	151	9.19	16	147	14
26x84	17.53	8	140	15.63	10	156	13.74	11	151	12.79	12	153	11.84	13	154	10.90	14	153	9.95	15	149	15.16
28x84	18.88	8	151	16.84	9	152	14.80	10	148	13.78	11	152	12.76	12	153	11.74	13	153	10.72	14	150	16.33
30x84	20.23	7	142	18.05	8	144	15.86	10	159	14.77	10	148	13.67	11	150	12.58	12	151	11.48	13	149	17.50
36x84	24.28	6	146	21.66	7	152	19.03	8	152	17.72	9	159	16.41	9	148	15.09	10	151	13.78	11	152	21
24x96	18.50	8	148	16.50	9	148	14.50	10	145	13.50	11	148	12.50	12	150	11.50	13	149	10.50	15	157	16
26x96	20.04	8	160	17.87	8	143	15.71	10	157	14.62	10	146	13.54	11	149	12.46	12	150	11.37	15	148	17.33
28x96	21.58	7	151	19.24	8	154	16.91	9	152	15.74	10	157	14.58	10	148	13.41	11	148	12.25	13	147	18.66
30x96	23.12	7	162	20.62	7	144	18.12	8	145	16.87	9	152	15.62	10	156	14.37	10	144	13.12	11	144	20
36x96	27.75	6	166	24.75	6	148	21.75	7	152	20.25	8	162	18.75	8	150	17.25	9	155	15.75	10	157	24
24x120	23.12	7	162	20.62	7	144	18.12	8	145	16.87	9	145	15.62	10	156	14.37	10	144	13.12	11	144	20
26x120	25.04	6	150	22.34	7	156	19.63	8	157	18.28	8	157	16.92	9	152	15.57	10	156	14.21	11	156	21.66
28x120	26.98	6	162	24.06	6	144	21.14	7	148	19.68	8	148	18.23	8	146	16.77	9	151	15.31	10	153	23.33
30x120	28.91	5	145	25.78	6	155	22.66	7	159	21.09	7	159	19.53	8	156	17.97	9	162	16.41	9	148	25
36x120	34.69	5	173	30.94	5	155	27.19	6	163	25.31	6	163	23.44	7	164	21.56	7	151	19.69	8	158	30

Limits, Gauges and Sizes. ONE PASS COLD ROLLED AND ANNEALED "ARMCO" Ingot Iron and Steel Sheets.

Gauge	Width in Inches										Length in Inches
	48	44	42	40	36	32	30	28	26	24	
10	144	144	168	168	168	168	168	168	168	168	
11	144	144	168	168	168	168	168	168	168	168	
12	144	144	168	168	168	168	168	168	168	168	
13	144	144	168	168	168	168	168	168	168	168	
14	144	144	168	168	168	168	168	168	168	168	
15	144	144	168	168	168	168	168	168	168	168	
16	144	144	168	168	168	168	168	168	168	168	
17	144	144	168	168	168	168	168	168	168	168	
18	144	144	156	168	168	168	168	168	168	168	
19	144	144	144	168	168	168	168	168	168	168	
20	144	144	144	168	168	168	168	168	168	168	
21	144	144	144	168	168	168	168	168	168	168	
22	144	144	144	168	168	168	168	168	168	168	
23			120	120	144	144	144	168	168	168	
24				120	144	144	144	144	144	144	
25				120	120	144	144	144	144	144	
26				120	120	144	144	144	144	144	
*27				120	120	120	120	120	120	120	
*28				120	120	120	120	120	120	120	
*29				120	120	120	120	120	120	120	

*These gauges can be furnished in Steel only.

Limits, Gauges and Sizes of GALVANIZED SHEETS in "ARMCO" Ingot Iron and Steel.

Gauge	Width in Inches										Length in Inches
	48	44	42	40	36	32	30	28	26	24	
10	144	144	144	144	144	144	144	144	144	144	
11	144	144	144	144	144	144	144	144	144	144	
12	144	144	144	144	144	144	144	144	144	144	
13	144	144	144	144	144	144	144	144	144	144	
14	144	144	144	144	144	144	144	144	144	144	
15	144	144	144	144	144	144	144	144	144	144	
16	144	144	144	144	144	144	144	144	144	144	
17	144	144	144	144	144	144	144	144	144	144	
18	144	144	144	144	144	144	144	144	144	144	
19	144	144	144	144	144	144	144	144	144	144	
20	144	144	144	144	144	144	144	144	144	144	
21	144	144	144	144	144	144	144	144	144	144	
22	144	144	144	144	144	144	144	144	144	144	
23			120	120	144	144	144	144	144	144	
24			120	120	144	144	144	144	144	144	
25				120	120	120	144	144	144	144	
26				120	120	120	144	144	144	144	
27				120	120	120	144	144	144	144	
28				120	120	120	144	144	144	144	

The above are our regular limits, but in special cases we can manufacture Black and Galvanized Sheets in accordance with sizes given below, at an extra cost dependent upon mill and market condition.

Gauge	Width in Inches	48	44	42	40	36	32	30	Length in Inches
	12	168	168	168	168	168	168	168	
	14	204	240	240	240	240	240	204	
	16	204	240	240	240	240	240	204	
	18	168	204	204	204	204	204	204	
	20	144	156	156	156	168	168	168	
	22	144	144	144	156	168	168	168	

Limits, Gauges and Sizes "ARMCO" Ingot Iron BLUE ANNEALED SHEETS
AND LIGHT PLATES.

Gauge	Width in Inches									
	60	58	56	54	50	48	44	42	40	36
1/2	120	123	126	132	138	150	156	168	180	192
3/8	156	164	170	176	192	198	204	224	232	240
5/16	156	168	192	204	216	240	240	240	240	240
1/4	156	168	192	204	216	240	240	240	240	240
3/16	156	168	192	204	216	240	240	240	240	240
8	156	168	192	204	216	240	240	240	240	240
9	156	168	192	204	216	240	240	240	240	240
10	156	168	192	204	216	240	240	240	240	240
11	156	168	192	204	216	240	240	240	240	240
12	156	168	192	204	216	216	216	216	216	216
13	144	144	156	168	180	192	192	192	192	192
14	156	156	156	168	180	192	192	192	192	192
15	156	156	156	168	180	180	180	180	180	180
16	156	156	156	156	168	180	180	180	180	180

Length in Inches

Should "ARMCO" Ingot Iron plates, heavier or larger than above limits show be desired, we have conversion arrangements through which such specifications may be manufactured.   We shall be pleased to have any special requirements submitted.

American Rolling Mill Co. Limits, Gauges and Sizes BLUE ANNEALED STEEL.

Gauge	Width in Inches									
	60	58	56	54	50	48	44	42	40	36
8	156	168	192	204	216	240	240	240	240	240
9	156	168	192	204	216	240	240	240	240	240
10	156	168	192	204	216	240	240	240	240	240
11	156	168	192	204	216	240	240	240	240	240
12	156	168	192	204	216	216	216	216	216	216
13	156	168	156	168	180	192	192	192	192	192
14	156	168	156	168	180	192	192	192	192	192
15	156	156	156	168	180	180	180	180	180	180
16	156	156	156	168	180	180	180	180	180	180

Length in Inches

Under special conditions we will accept specification for light Steel Plates from 7 gauge to 1/2″ thick providing finished weight does not exceed 600 lbs.

Limits, Gauges and Sizes "ARMCO" INGOT IRON ENAMELING SHEETS.

Gauge	Width in Inches									
	48	44	42	40	36	32	30	28	26	24
8	144	144	144	144	144	144	144	144	144	144
9	144	144	144	144	144	144	144	144	144	144
10	144	144	144	144	144	144	144	144	144	144
11	144	144	144	144	144	144	144	144	144	144
12	144	144	144	144	144	144	144	144	144	144
13	144	144	144	144	144	144	144	144	144	144
14	144	144	144	144	144	144	144	144	144	144
15	144	144	144	144	144	144	144	144	144	144
16	144	144	144	144	144	144	144	144	144	144
18	144	144	144	144	144	144	144	144	144	144
20	144	144	144	144	144	144	144	144	144	144
22	144	144	144	144	144	144	144	144	144	144
24					120	120	120	120	120	120
26					120	120	120	120	120	120

Length in Inches

TEMPERATURE CONVERSION TABLE—FAHRENHEIT TO CENTIGRADE

F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.
0	−17.8										
+1	−17.2	51	10.6	101	38.3	151	66.1	201	93.9	251	121.7
2	−16.7	52	11.1	102	38.9	152	66.7	202	94.4	252	122.2
3	−16.1	53	11.7	103	39.4	153	67.2	203	95.	253	122.8
4	−15.6	54	12.2	104	40.	154	67.8	204	95.6	254	123.3
5	−15.	55	12.8	105	40.6	155	68.3	205	96.1	255	123.9
6	−14.4	56	13.3	106	41.1	156	68.9	206	96.7	256	124.4
7	−13.9	57	13.9	107	41.7	157	69.4	207	97.2	257	125.
8	−13.3	58	14.4	108	42.2	158	70.	208	97.8	258	125.6
9	−12.8	59	15.	109	42.8	159	70.6	209	98.3	259	126.1
10	−12.2	60	15.6	110	43.3	160	71.1	210	98.9	260	126.7
11	−11.7	61	16.1	111	43.9	161	71.7	211	99.4	261	127.2
12	−11.1	62	16.7	112	44.4	162	72.2	212	100.	262	127.8
13	−10.6	63	17.2	113	45.	163	72.8	213	100.6	263	128.3
14	−10.	64	17.8	114	45.6	164	73.3	214	101.1	264	128.9
15	− 9.4	65	18.3	115	46.1	165	73.9	215	101.7	265	129.4
16	− 8.9	66	18.9	116	46.7	166	74.4	216	102.2	266	130.
17	− 8.3	67	19.4	117	47.2	167	75.	217	102.8	267	130.6
18	− 7.8	68	20.	118	47.8	168	75.6	218	103.3	268	131.1
19	− 7.2	69	20.6	119	48.3	169	76.1	219	103.9	269	131.7
20	− 6.7	70	21.1	120	48.9	170	76.7	220	104.4	270	132.2
21	− 6.1	71	21.7	121	49.4	171	77.2	221	105.	271	132.8
22	− 5.6	72	22.2	122	50.	172	77.8	222	105.6	272	133.3
23	− 5.	73	22.8	123	50.6	173	78.3	223	106.1	273	133.9
24	− 4.4	74	23.3	124	51.1	174	78.9	224	106.7	274	134.4
25	− 3.9	75	23.9	125	51.7	175	79.4	225	107.2	275	135.
26	− 3.3	76	24.4	126	52.2	176	80.	226	107.8	276	135.6
27	− 2.8	77	25.	127	52.8	177	80.6	227	108.3	277	136.1
28	− 2.2	78	25.6	128	53.3	178	81.1	228	108.9	278	136.7
29	− 1.7	79	26.1	129	53.9	179	81.7	229	109.4	279	137.2
30	− 1.1	80	26.7	130	54.4	180	82.2	230	110.	280	137.8
31	− 0.6	81	27.2	131	55.	181	82.8	231	110.6	281	138.3
32	0.	82	27.8	132	55.6	182	83.3	232	111.1	282	138.9
33	+ 0.6	83	28.3	133	56.1	183	83.9	233	111.7	283	139.4
34	1.1	84	28.9	134	56.7	184	84.4	234	112.2	284	140.
35	1.7	85	29.4	135	57.2	185	85.	235	112.8	285	140.6
36	2.2	86	30.	136	57.8	186	85.6	236	113.3	286	141.1
37	2.8	87	30.6	137	58.3	187	86.1	237	113.9	287	141.7
38	3.3	88	31.1	138	58.9	188	86.7	238	114.4	288	142.2
39	3.9	89	31.7	139	59.4	189	87.2	239	115.	289	142.8
40	4.4	90	32.2	140	60.	190	87.7	240	115.6	290	143.3
41	5.	91	32.8	141	60.6	191	88.3	241	116.1	291	143.9
42	5.6	92	33.3	142	61.1	192	88.9	242	116.7	292	144.4
43	6.1	93	33.9	143	61.7	193	89.4	243	117.2	293	145.
44	6.7	94	34.4	144	62.2	194	90.	244	117.8	294	145.6
45	7.2	95	35.	145	62.8	195	90.6	245	118.3	295	146.1
46	7.8	96	35.6	146	63.3	196	91.1	246	118.9	296	146.7
47	8.3	97	36.1	147	63.9	197	91.7	247	119.4	297	147.2
48	8.9	98	36.7	148	64.4	198	92.2	248	120.	298	147.8
49	9.4	99	37.2	149	65.	199	92.8	249	120.6	299	148.3
50	10.	100	37.8	150	65.6	200	93.3	250	121.1	300	148.9

TEMPERATURE CONVERSION TABLE—FAHRENHEIT TO CENTIGRADE—Continued

F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.
301	149.4	360	182.2	910	487.8	1460	793.3	2010	1098.9	2560	1404.4
302	150.	370	187.8	920	493.3	1470	798.9	2020	1104.4	2570	1410.
303	150.6	380	193.3	930	498.9	1480	804.4	2030	1110.	2580	1415.6
304	151.1	390	198.9	940	504.4	1490	810.	2040	1115.6	2590	1421.1
305	151.7	400	204.4	950	510.	1500	815.6	2050	1121.1	2600	1426.7
306	152.2	410	210.	960	515.6	1510	821.1	2060	1126.7	2610	1432.2
307	152.8	420	215.6	970	521.1	1520	826.7	2070	1132.2	2620	1437.8
308	153.3	430	221.1	980	526.7	1530	832.2	2080	1137.8	2630	1443.3
309	153.9	440	226.7	990	532.2	1540	837.8	2090	1143.3	2640	1448.9
310	154.4	450	232.2	1000	537.8	1550	843.3	2100	1148.9	2650	1454.4
311	155.	460	237.8	1010	543.3	1560	848.9	2110	1154.4	2660	1460.
312	155.6	470	243.3	1020	548.9	1570	854.4	2120	1160.	2670	1465.6
313	156.1	480	248.9	1030	554.4	1580	860.	2130	1165.6	2680	1471.1
314	156.7	490	254.4	1040	560.	1590	865.6	2140	1171.1	2690	1476.7
315	157.2	500	260.	1050	565.6	1600	871.1	2150	1176.7	2700	1482.2
316	157.8	510	265.6	1060	571.1	1610	876.7	2160	1182.2	2710	1487.8
317	158.3	520	271.1	1070	576.7	1620	882.2	2170	1187.8	2720	1493.3
318	158.9	530	276.7	1080	582.2	1630	887.8	2180	1193.3	2730	1498.9
319	159.4	540	282.2	1090	587.8	1640	893.3	2190	1198.9	2740	1504.4
320	160.	550	287.8	1100	593.3	1650	898.9	2200	1204.4	2750	1510.
321	160.6	560	293.3	1110	598.9	1660	904.4	2210	1210.	2760	1515.6
322	161.1	570	298.9	1120	604.4	1670	910.	2220	1215.6	2770	1521.1
323	161.7	580	304.4	1130	610.	1680	915.6	2230	1221.1	2780	1526.7
324	162.2	590	310.	1140	615.6	1690	921.1	2240	1226.7	2790	1532.2
325	162.8	600	315.6	1150	621.1	1700	926.7	2250	1232.2	2800	1537.8
326	163.3	610	321.1	1160	626.7	1710	932.2	2260	1237.8	2810	1543.3
327	163.9	620	326.7	1170	632.2	1720	937.8	2270	1243.3	2820	1548.9
328	164.4	630	332.2	1180	637.8	1730	943.3	2280	1248.9	2830	1554.4
329	165.	640	337.8	1190	643.3	1740	948.9	2290	1254.4	2840	1560.
330	165.6	650	343.3	1200	648.9	1750	954.4	2300	1260.	2850	1565.6
331	166.1	660	348.9	1210	654.4	1760	960.	2310	1265.6	2860	1571.1
332	166.7	670	354.4	1220	660.	1770	965.6	2320	1271.1	2870	1576.7
333	167.2	680	360.	1230	665.6	1780	971.1	2330	1276.7	2880	1582.2
334	167.8	690	365.6	1240	671.1	1790	976.7	2340	1282.2	2890	1587.8
335	168.3	700	371.1	1250	676.7	1800	982.2	2350	1287.8	2900	1593.3
336	168.9	710	367.7	1260	682.2	1810	987.8	2360	1293.3	2910	1598.9
337	169.4	720	382.2	1270	687.8	1820	993.3	2370	1298.9	2920	1604.4
338	170.	730	387.8	1280	693.3	1830	998.9	2380	1304.4	2930	1610.
339	170.6	740	393.3	1290	698.9	1840	1004.4	2390	1310.	2940	1615.6
340	171.1	750	398.9	1300	704.4	1850	1010.	2400	1315.6	2950	1621.1
341	171.7	760	404.4	1310	710.	1860	1015.6	2410	1321.1	2960	1626.7
342	172.2	770	410.	1320	715.6	1870	1021.1	2420	1326.7	2970	1632.2
343	172.8	780	415.6	1330	721.1	1880	1026.7	2430	1332.2	2980	1637.8
344	173.3	790	421.1	1340	726.7	1890	1032.2	2440	1337.8	2990	1643.3
345	173.9	800	426.7	1350	732.2	1900	1037.8	2450	1343.3	3000	1648.9
346	174.4	810	432.2	1360	737.8	1910	1043.3	2460	1348.9	3010	1654.4
347	175.	820	437.8	1370	743.3	1920	1048.9	2470	1354.4	3020	1660.
348	175.6	830	443.3	1380	748.9	1930	1054.4	2480	1360.	3030	1665.6
349	176.1	840	448.9	1390	754.4	1940	1060.	2490	1365.6	3040	1671.1
350	176.7	850	454.4	1400	760.0	1950	1065.6	2500	1371.1	3050	1676.7
351	177.2	860	460.	1410	765.6	1960	1071.1	2510	1376.7	3060	1682.2
352	177.8	870	465.6	1420	771.1	1970	1076.7	2520	1382.2	3070	1687.8
353	178.3	880	471.1	1430	776.7	1980	1082.2	2530	1387.8	3080	1693.3
354	178.9	890	476.7	1440	782.2	1990	1087.8	2540	1393.3	3090	1698.9
355	179.4	900	482.2	1450	787.8	2000	1093.3	2550	1398.9	3100	1704.4

TEMPERATURE CONVERSION TABLE—FAHRENHEIT TO CENTIGRADE—Concluded

F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.
3110	1710.	3180	1748.9	3250	1787.8	3320	1826.7				
3120	1715.6	3190	1754.4	3260	1793.3	3330	1832.2	3390	1865.6	3450	1898.9
3130	1721.1	3200	1760.	3270	1798.9	3340	1837.8	3400	1871.1	3460	1904.4
3140	1726.7	3210	1765.6	3280	1804.4	3350	1843.3	3410	1876.7	3470	1910.
3150	1732.2	3220	1771.1	3290	1810.	3360	1848.9	3420	1882.2	3480	1915.6
3160	1737.8	3230	1776.7	3300	1815.6	3370	1854.4	3430	1887.8	3490	1921.1
3170	1743.3	3240	1782.2	3310	1821.1	3380	1860.	3440	1893.3	3500	1926.7

TEMPERATURE CONVERSION TABLE—CENTIGRADE TO FAHRENHEIT

C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
0	+32.										
+1	33.8	41	105.8	81	177.8	121	249.8	161	321.8	201	393.8
2	35.6	42	107.6	82	179.6	122	251.6	162	323.6	202	395.6
3	37.4	43	109.4	83	181.4	123	253.4	163	325.4	203	397.4
4	39.2	44	111.2	84	183.2	124	255.2	164	327.2	204	399.2
5	41.	45	113.	85	185.	125	257.	165	329.	205	401.
6	42.8	46	114.8	86	186.8	126	258.8	166	330.8	206	402.8
7	44.6	47	116.6	87	188.6	127	260.6	167	332.6	207	404.6
8	46.4	48	118.4	88	190.4	128	262.4	168	334.4	208	406.4
9	48.2	49	120.2	89	192.2	129	264.2	169	336.2	209	408.2
10	50.	50	122.	90	194.	130	266.	170	338.	210	410.
11	51.8	51	123.8	91	195.8	131	267.8	171	339.8	211	411.8
12	53.6	52	125.6	92	197.6	132	269.6	172	341.6	212	413.6
13	55.4	53	127.4	93	199.4	133	271.4	173	343.4	213	415.4
14	57.2	54	129.2	94	201.2	134	273.2	174	345.2	214	417.2
15	59.	55	131.	95	204.	135	275.	175	347.	215	419.
16	60.8	56	132.8	96	205.8	136	276.8	176	348.8	216	420.8
17	62.6	57	134.6	97	207.6	137	278.6	177	350.6	217	422.6
18	64.4	58	136.4	98	209.4	138	280.4	178	352.4	218	424.4
19	66.2	59	138.2	99	210.2	139	282.2	179	354.2	219	426.2
20	68.	60	140.	100	212.	140	284.	180	356.	220	428.
21	69.8	61	141.8	101	213.8	141	285.8	181	357.8	221	429.8
22	71.6	62	143.6	102	215.6	142	287.6	182	359.6	222	431.6
23	73.4	63	145.4	103	217.4	143	289.4	183	361.4	223	433.4
24	75.2	64	147.2	104	219.2	144	291.2	184	363.2	224	435.2
25	77.	65	149.	105	221.	145	293.	185	365.	225	437.
26	78.8	66	150.8	106	222.8	146	294.8	186	366.8	226	438.8
27	80.6	67	152.6	107	224.6	147	296.6	187	368.6	227	440.6
28	82.4	68	154.4	108	226.4	148	298.4	188	370.4	228	442.4
29	84.2	69	156.2	109	228.2	149	300.2	189	372.2	229	444.2
30	86.	70	158.	110	230.	150	302.	190	374.	230	446.
31	87.8	71	159.8	111	231.8	151	303.8	191	375.8	231	447.8
32	89.6	72	161.6	112	233.6	152	305.6	192	377.6	232	449.6
33	91.4	73	163.4	113	235.4	153	307.4	193	379.4	233	451.4
34	93.2	74	165.2	114	237.2	154	309.2	194	381.2	234	453.2
35	95.	75	167.	115	239.	155	311.	195	383.	235	455.
36	96.8	76	168.8	116	240.8	156	312.8	196	384.8	236	456.8
37	98.6	77	170.6	117	242.6	157	314.6	197	386.6	237	458.6
38	100.4	78	172.4	118	244.4	158	316.4	198	388.4	238	460.4
39	102.2	79	174.2	119	246.2	159	318.2	199	390.2	239	462.2
40	104.	80	176.	120	248.	160	320.	200	392.	240	464.

TEMPERATURE CONVERSION TABLE—CENTIGRADE TO FAHRENHEIT—Continued

C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
241	465.8	277	530.6	520	968.	880	1616.	1240	2264.	1600	2912.
242	467.6	278	532.4	530	986.	890	1634.	1250	2282.	1610	2930.
243	469.4	279	534.2	540	1004.	900	1652.	1260	2300.	1620	2948.
244	471.2	280	536.	550	1022.	910	1670.	1270	2318.	1630	2966.
245	473.	281	537.8	560	1040.	920	1688.	1280	2336.	1640	2984.
246	474.8	282	539.6	570	1058.	930	1706.	1290	2354.	1650	3002.
247	476.6	283	541.4	580	1076.	940	1724.	1300	2372.	1660	3020.
248	478.4	284	543.2	590	1094.	950	1742.	1310	2390.	1670	3038.
249	480.2	285	545.	600	1112.	960	1760.	1320	2408.	1680	3056.
250	482.	286	546.8	610	1130.	970	1778.	1330	2426.	1690	3074.
251	483.8	287	548.6	620	1148.	980	1796.	1340	2444.	1700	3092.
252	485.6	288	550.4	630	1166.	990	1814.	1350	2462.	1710	3110.
253	487.4	289	552.2	640	1184.	1000	1832.	1360	2480.	1720	3128.
254	489.2	290	554.	650	1202.	1010	1850.	1370	2498.	1730	3146.
255	491.	300	572.	660	1220.	1020	1868.	1380	2516.	1740	3164.
256	492.8	310	590.	670	1238.	1030	1886.	1390	2534.	1750	3182.
257	494.6	320	608.	680	1256.	1040	1904.	1400	2552.	1760	3200.
258	496.4	330	626.	690	1274.	1050	1922.	1410	2570.	1770	3218.
259	498.2	340	644.	700	1292.	1060	1940.	1420	2588.	1780	3236.
260	500.	350	662.	710	1310.	1070	1958.	1430	2606.	1790	3254.
261	501.8	360	680.	720	1328.	1080	1976.	1440	2624.	1800	3272.
262	503.6	370	698.	730	1346.	1090	1994.	1450	2642.	1810	3290.
263	505.4	380	716.	740	1364.	1100	2012.	1460	2660	1820	3308.
264	507.2	390	734.	750	1382.	1110	2030.	1470	2678.	1830	3326.
265	509.	400	752.	760	1400.	1120	2048.	1480	2696.	1840	3344.
266	510.8	410	770.	770	1418.	1130	2066.	1490	2714.	1850	3362.
267	512.6	420	788.	780	1436.	1140	2084.	1500	2732.	1860	3380.
268	514.4	430	806.	790	1454.	1150	2102.	1510	2750.	1870	3398.
269	516.2	440	824.	800	1472.	1160	2120.	1520	2768.	1880	3416.
270	518.	450	842.	810	1490.	1170	2138.	1530	2786.	1890	3434.
271	519.8	460	860.	820	1508.	1180	2156.	1540	2804.	1900	3452.
272	521.6	470	878.	830	1526.	1190	2174.	1550	2822.	1910	3470.
273	523.4	480	896.	840	1544.	1200	2192.	1560	2840.	1920	3488.
274	525.2	490	914.	850	1562.	1210	2210.	1570	2858.	1930	3506.
275	527.	500	932.	860	1580.	1220	2228.	1580	2876.	1940	3524.
276	528.8	510	950.	870	1598.	1230	2246.	1590	2894.	1950	3542.

HIGH TEMPERATURE JUDGED BY COLOR (KENT)

The temperature of a body can be approximately judged by its color. The following table gives temper and heat colors of steel.

Temper Colors	Degrees Centigrade	Degrees Fahrenheit
Very pale yellow	221.1	430
Light yellow	226.7	440
Pale straw-yellow	232.2	450
Straw-yellow	237.8	460
Deep straw-yellow	243.3	470
Dark yellow	248.9	480
Yellow-brown	254.4	490
Brown-yellow	260.	500
Spotted red-brown	265.6	510
Brown-purple	271.1	520
Light purple	276.7	530
Full purple	282.2	540
Dark purple	287.8	550
Full Blue	293.3	560
Dark blue	289.9	570
Very dark blue	315.6	600
Heat Colors		
Red, visible in the dark	400	752
Red, " " " twilight	474	885
Red, " " " daylight	525	975
Red, " " " sunlight	581	1077
Dark red	700	1292
Dull cherry-red	800	1472
Cherry-red	900	1652
Bright cherry-red	1000	1832
Orange-red	1100	2012
Orange-yellow	1200	2192
Yellow-white	1300	2372
White welding heat	1400	2552
Brilliant white	1500	2732
Dazzling white (bluish white)	1600	2912

CIRCUMFERENCE OF CIRCLES

Diam.	0 Inch		1 Inch		2 Inches		3 Inches		4 Inches		5 Inches		6 Inches		7 Inches		8 Inches		9 Inches		10 Inches		11 Inches	
Ft.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
1	3	1⅝	3	3½	3	6¼	3	9⅞	1	1¼	1	3¾	1	6¼	1	9	2	1⅛	2	4¼	2	7⅞	2	10½
2	6	3⅜	6	4⅝	6	8	7	11	4	2⅛	4	5⅜	4	8½	4	11⅝	5	2⅜	5	5⅞	5	9	6	2¾
3	9	5	9	6½	9	9⅝	10	¾	7	3⅜	7	7	7	10¼	8	1⅜	8	4½	8	7⅞	8	10¾	9	1⅞
4	12	6¾	12	8¼	13	1	13	2⅛	10	5⅝	10	8¾	10	11⅞	11	3	11	6⅝	12	½	12	3⅜	12	6½
5	15	8½	15	9⅞	16	2¾	16	4⅛	13	7¼	13	8¾	14	1⅝	14	4⅝	14	7⅞	15	2⅛	15	3⅞	15	3⅜
6	18	10¼	19	11⅝	19	1	19	4⅛	16	9	17	⅛	17	1¾	17	3	17	7⅞	18	11	18	½	18	3⅜
7	21	11⅞	22	1¼	22	2¾	22	5⅝	19	10⅝	20	1⅞	20	3½	20	11½	21	1½	21	3⅝	21	1⅛	21	1⅝
8	25	1½	25	3	25	4⅝	25	7⅞	23	⅜	23	1¾	23	8⅜	23	11½	24	2⅜	27	9	24	3½	24	1⅛
9	28	3¼	28	4⅝	28	6⅛	29	11	26	2⅛	26	2⅛	26	10⅜	26	11½	27	4⅛	30	11⅝	27	3⅜	28	1¼
10	31	5	31	8⅜	31	7⅞	32	2⅜	29	3¾	29	7	29	8⅜	30	2⅞	30	5½	34	3⅜	31	2¾	31	3½
11	34	6⅝	34	8⅛	35	7⅞	35	4⅛	32	5⅛	32	8⅝	32	11¼	33	2⅞	33	7¾	33	9¼	34	3⅜	34	5⅛
12	37	8⅜	37	9¾	38	⅞	38	5¾	35	8⅞	36	1½	36	1½	36	2⅛	36	6⅛	36	10¾	37	3¼	37	5¼
13	40	10	41	11½	41	2⅜	41	7½	38	8⅞	39	⅛	39	3¾	39	7⅞	39	9⅛	40	2¼	40	5½	40	6⅞
14	43	11¾	44	1¼	44	4⅜	44	9¼	41	10⅝	42	5⅝	42	4⅞	42	8	43	7⅛	43	5⅛	43	7⅛	43	8⅝
15	47	1½	47	4⅝	47	7¾	47	10⅞	45	2¼	45	5½	45	8¼	48	11⅞	49	2⅝	46	7⅞	46	8⅞	50	11¼
16	50	3⅛	50	6¼	50	9⅝	51	½	48	3¾	51	6½	51	10	52	1⅛	52	4¼	52	10½	52	10½	53	1⅛

AREAS OF CIRCLES IN SQUARE FEET (DIAMETERS IN INCHES)

Dia. In.	Area Sq. Ft.	Dia. In.	Area Sq. Ft.	Dia. In.	Area Sq. Ft.	Dia. In.	Area Sq. Ft.	Dia. In.	Area Sq. Ft.
		5		10		18		31	5.241
1	.0055	¾	.1803	½	.6013	½	1.867	32	5.585
¼	.0085	6	.1963	¾	.6303	19	1.969	33	5.940
½	.0123	¼	.2130	11	.6600	½	2.074	34	6.305
¾	.0168	½	.2305	¼	.6903	20	2.182	35	6.681
2	.0218	¾	.2485	½	.7213	½	2.292	36	7.069
¼	.0276	7	.2673	¾	.7530	21	2.405	37	7.468
½	.0341	¼	.2868	12	.7854	½	2.521	38	7.876
¾	.0413	½	.3068	½	.8523	22	2.640	39	8.296
3	.0491	¾	.3275	13	.9218	½	2.761	40	8.728
¼	.0576	8	.3490	½	.9940	23	2.885	41	9.168
½	.0668	¼	.3713	14	1.069	½	3.012	42	9.620
¾	.0767	½	.3940	½	1.147	24	3.142	43	10.084
4	.0883	¾	.4175	15	1.227	½	3.275	44	10.560
¼	.0985	9	.4418	½	1.310	25	3.409	45	11.044
½	.1105	¼	.4668	16	1.396	26	3.687	46	11.540
¾	.1231	½	.4923	½	1.485	27	3.976	47	12.048
5	.1364	¾	.5185	17	1.576	28	4.276	48	12.566
¼	.1503	10	.5455	½	1.670	29	4.587	49	13.095
½	.1650	¼	.5730	18	1.767	30	4.909	50	13.636

WEIGHT OF METALS IN LBS. PER SQUARE FOOT

Thickness	Wrought Iron	Cast Iron	Steel	Copper	Tin	Zinc	Brass	Gun Metal	Lead	Aluminum (Cast)	Antimony
1/16	2.5	2.34	2.55	2.89	2.41	2.28	2.63	2.73	3.71	.86	2.18
1/8	5.	4.69	5.1	5.79	4.81	4.55	5.26	5.46	7.41	1.73	4.35
3/16	7.5	7.03	7.65	8.68	7.22	6.83	7.89	8.19	1i.1	2.60	6.53
¼	10	9.38	10.2	11.6	9.63	9.10	10.5	10.9	14.8	3.46	8.73
5/16	12.5	11.7	12.8	14.5	12	11.4	13.2	13.7	18.5	4.32	10.9
3/8	15	14.1	15.3	17.4	14.4	13.7	15.8	16.4	22.2	5.19	13
7/16	17.5	16.4	17.9	20.3	16.8	15.9	18.4	19.1	25.9	6.04	15.2
½	20	18.7	20.4	23.2	19.3	18.2	21.1	21.9	29.7	6.91	17.5
5/8	25	23.4	25.6	29	24	22.8	26.4	27.4	37	8.65	21.8
¾	30	28.2	30.6	34.8	28.8	27.4	31.6	32.8	44.4	10.4	26.2
7/8	35	32.8	35.8	40.6	33.6	31.8	36.8	38.2	51.8	12.1	30.5
1	40	37.4	40.8	46.4	38.6	36.4	42.2	43.8	59.4	13.8	34.9

TABLE FOR COMPUTING LENGTHS OF SHEETS FOR CIRCULAR ARCHES (KENT)

(Diameter = 1 Given the Chord and Height of the Arch)

Rule: Divide the height by the chord or (base).   Find in the column of heights the number equal to this quotient.   Take out the corresponding number from the column of lengths.   Multiply this last number by the length of the given chord.   The product will be the length of arch.

Example: Find length of sheet required for arch between two I-beams 100 inches apart.   Arch to have 25 inches rise.

Divide 25 by 100   =   .25
.25 in table   =   1.15912
100 times 1.15912 = 115.912 inches or length of arch.

Height	Length	Height	Length	Height	Length	Height	Length	Height	Length
.001	1.00002	.148	1.05743	.236	1.14247	.324	1.25988	.412	1.40432
.005	1.00007	.15	1.05896	.238	1.14480	.326	1.26288	.414	1.40788
.01	1.00027	.152	1.06051	.24	1.14714	.328	1.26588	.416	1.41145
.015	1.00061	.154	1.06209	.242	1.14951	.33	1.26892	.418	1.41503
.02	1.00107	.156	1.06368	.244	1.15189	.332	1.27196	.42	1.41861
.025	1.00167	.158	1.06530	.246	1.15428	.334	1.27502	.422	1.42221
.03	1.00240	.16	1.06693	.248	1.15670	.336	1.27810	.424	1.42583
.035	1.00327	.162	1.06858	.25	1.15912	.338	1.28118	.426	1.42945
.04	1.00426	.164	1.07025	.252	1.16156	.34	1.28428	.428	1.43309
.045	1.00539	.166	1.07194	.254	1.16402	.342	1.28739	.430	1.43673
.05	1.00665	.168	1.07365	.256	1.16650	.344	1.29052	.432	1.44039
.055	1.00805	.17	1.07537	.258	1.16889	.346	1.29366	.434	1.44405
.06	1.00957	.172	1.07711	.26	1.17150	.348	1.29681	.436	1.44773
.065	1.01123	.174	1.07888	.262	1.17403	.35	1.29997	.438	1.45142
.07	1.01302	.176	1.08066	.264	1.17657	.352	1.30315	.440	1.45512
.075	1.01493	.178	1.08246	.266	1.17912	.354	1.30634	.442	1.45883
.08	1.01698	.18	1.08428	.268	1.18169	.356	1.30954	.444	1.46255
.085	1.01916	.182	1.08611	.27	1.18429	.358	1.31276	.446	1.46628
.09	1.02146	.184	1.08797	.272	1.18689	.36	1.31599	.448	1.47002
.095	1.02389	.186	1.08984	.274	1.18951	.362	1.31923	.450	1.47377
.10	1.02646	.188	1.09174	.276	1.19214	.364	1.32249	.452	1.47753
.102	1.02752	.19	1.09365	.278	1.19479	.366	1.32577	.454	1.48131
.104	1.02860	.192	1.09557	.28	1.19746	.368	1.32905	.456	1.48509
.106	1.02970	.194	1.09752	.282	1.20014	.37	1.33234	.458	1.48889
.108	1.03082	.196	1.09949	.284	1.20284	.372	1.33564	.460	1.49269
.111	1.03196	.198	1:10147	.286	1.20555	.374	1.33896	.462	1.49651
.112	1.03312	.20	1.10347	.288	1.20827	.376	1.34229	.464	1.50033
.114	1.03430	.202	1.10548	.29	1.21102	.378	1.34563	.466	1.50416
.116	1.03551	.204	1.10752	.292	1.21377	.38	1.34899	.468	1.50800
.118	1.03672	.206	1.10958	.294	1.21654	.382	1.35237	.47	1.51185
.12	1.03797	.208	1.11165	.296	1.21933	.384	1.35575	.472	1.51571
.122	1.03923	.21	1.11374	.298	1.22213	.386	1.35914	.474	1.51958
.124	1.04051	.212	1.11584	.30	1.22495	.388	1.36254	.476	1.52346
.126	1.04181	.214	1.11796	.302	1.22778	.39	1.36596	.478	1.52736
.128	1.04313	.216	1.12011	.304	1.23063	.392	1.36939	.48	1.53126
.13	1.04447	.218	1.12225	.306	1.23349	.394	1.37283	.482	1.53518
.132	1.04584	.22	1.12444	.308	1.23636	.396	1.37628	.484	1.53910
.134	1.04722	.222	1.12664	.31	1.23926	.398	1.37974	.486	1.54302
.136	1.04862	.224	1.12885	.312	1.24216	.40	1.38322	.488	1.54696
.138	1.05003	.226	1.13108	.314	1.24507	.402	1.38671	.49	1.55091
.140	1.05147	.228	1.13331	.316	1.24801	.404	1.39021	.492	1.55487
.142	1.05293	.23	1.13557	.318	1.25095	.406	1.39372	.494	1.55854
.144	1.05441	.232	1.13785	.32	1.25391	.408	1.39724	.496	1.56282
.146	1.05591	.234	1.14015	.322	1.25689	.41	1.40077	.498	1.56681
								.50	1.57080

LONG MEASURE

Inches

12 =	1	ft.						
36 =	3	ft. =	1	yd.				
72 =	6	ft. =	2	yd. =	1	fathom (perch or		
198 =	16.5	ft. =	5.5	yd. =	2.75	= 1 (rod		
7920 =	660	ft. =	220	yd. =	110	= 40	= 1 furlong	
63360 =	5280	ft. =	1760	yd. =	880	=320	= 8 furlong	= 1 mile

GUNTER'S CHAIN (SURVEYORS MEASURE)

Inches

7.92 =	1 Link			
792	= 100 Link =	1 Chain		
63360	= 8000 Link =	80 Chain =	1 mile	

NAUTICAL MEASURE

Naut. mile

1 =	6080 ft.			
3 =	1 league			
60 =	20 league =	1 deg. =	69.16 Eng. miles	

SQUARE MEASURE

Inches

144 =		1 foot						
1296 =		9 feet	=	1	yard			
39204 =		272.25 feet =		30.25 yard =		1 perch		
1568160 =	10890	feet =	1210	yard =	40 perch	= 1 rood		
6272640 =	43560	feet =	4810	yard =	160 perch	= 4 rood	= 1 acre	

An acre is 69.5701 yds. square or 208.710321 feet square

A township is 6 mile square = 36 sections

A Section is 1 mile square = 640 acres

1–4   section is ½ mile square = 160 acres

1–16   section   is ¼ mile square =   40 acres

SOLID MEASURE

Cubic inches

1728	=	1 cu. foot	
46656	=	27 cu. foot	= 1 cu. yd.

DRY MEASURE

Pints
```
  1  =  33.6 cu. in.
  2  =   1 quart   67.2 cu. in.
  8  =   4 quart  =   1 gallon  =  268.8 cu. in.
 16  =   8 quart  =   2 gallon  =    1 peck  =  537.6 cu. in.
 64  =  32 quart  =   8 gallon  =    4 peck  =    1 bushel
```

Note—The U. S. Standard bushel is the Winchester bushel, which is in cylinder form, 18½ in. diameter and 8 in. deep, and contains 2150–42/100 cubic inches.

English Imperial Bushel $\begin{cases} 2218.192 \text{ cubic inches} \\ 1.03152 \text{ U. S. bushels} \end{cases}$

The English Quarter.... $\begin{cases} 8 \text{ Imperial bushels} \\ 8\frac{1}{4} \text{ U. S. bushels—(Approx.)} \\ 10.2694 \text{ cu. feet} \end{cases}$

TROY WEIGHT

Grains
```
  24  =   1 pwt.
 480  =  20 pwt.  =   1 oz.
5760  = 240 pwt.  =  12 oz. = 1 lb.
```

AVOIRDUPOIS WEIGHT

Drachms
```
    16  =       1 oz. =   437.5 grains Troy
   256  =      16 oz. =     1 lb.  =   1.2153 lb. Troy
  6400  =     400 oz. =    25 lb.  =   1 quarter
 25600  =    1600 oz. =   100 lb.  =   4 quarter = 1 cwt.
512000  =   32000 oz. =  2000 lb.  =  80 quarter = 20 cwt  = 1 short ton—2240 lbs.
                                                           = 1 long ton
```

APOTHECARIES WEIGHT

Grains
```
  20  =     1 scruple or ℈
  60  =     3 scruple  =    1 drachm or ʒ
 480  =    24 scruple  =    8 drachm  =   1 oz. or ℥
5760  =   288 scruple  =   96 drachm  =  12 oz. = 1 lb.
```

LIQUID OR WINE MEASURE

Gills
1 = 7.2187 cu. in.					
4 =	1 pint =	28.875 cu. in.			
32 =	8 pint =	4 quart =	1 gallon		
2016 =	404 pint =	252 quart =	63 gallon = 1 hogshead		
4032 =	1008 pint =	504 quart =	126 gallon = 2 hogshead = 1 pipe		
8064 =	2016 pint =	1008 quart =	252 gallon = 4 hogshead = 2 pipe = 1 tun		

Note—The Standard unit of Liquid Measure adopted by the U. S. Government is the "Winchester Wine Gallon" which contains 231 cubic inches, and holds 8.339 lbs. Avoir. of distilled water, at its maximum density weighed in air, the barometer being at 30 inches.

The "Imperial Gallon" adopted by Great Britain contains 277.244 cu. inches and equals 1.20032 U. S. Gallons.

CIRCULAR MEASURE

Seconds
60 =	1 minute				
3600 =	60 minute =	1 degree			
108000 =	1800 minute =	30 degree =	1 sign		
324000 =	5400 minute =	90 degree =	1 quadrant		
1296000 =	21600 minute =	360 degree =	4 quadrant =	12 signs =	1 circle

TIME MEASURE

60 seconds	= 1 minute
60 minutes	= 1 hour
24 hours	= 1 day
7 days	= 1 week
28–29–30 or 31 days	= 1 month
(30 days = 1 month in computing interest)	
365 days	= 1 year
366 days	= 1 leap year

LUMBER MEASUREMENTS

The method of rough lumber mensuration is based on the board foot—12 inches square by one inch thick. The sales basis is 1000 feet. The number of feet in any piece of lumber may be obtained by multiplying the length in inches by the end area in inches, dividing by 144. Or multiply the length in feet by the end area in inches and divide by 12.

CONVERSION OF WEIGHTS AND MEASURES

Lineal feet	x	.00019	=	Miles
Lineal Yards	x	.0006	=	Miles
Square inches	x	.007	=	Square feet
Square feet	x	.111	=	Square yards
Square yards	x	.0002067	=	Acres
Acres	x	.4840	=	Square yards
Cubic inches	x	.00058	=	Cubic feet
Cubic feet	x	.03704	=	Cubic yards
Circular inches	x	.00546	=	Square feet
Cylindrical inches	x	.0004546	=	Cubic feet
Cylindrical feet	x	.02909	=	Cubic yards
Links	x	.22	=	Yards
Links	x	.66	=	Feet
Feet	x	1.5	=	Links
Width in chains	x	8	=	Acres per mile
183.346 circular inches			=	1 square foot
2200 cylindrical inches			=	1 cubic foot
Cubic feet	x	7.48	=	U. S. Gallons
Cubic inches	x	.004329	=	U. S. Gallons
Cylindrical feet	x	5.874	=	U. S. Gallons
Cylindrical inches	x	.0034	=	U. S. Gallons
U. S. Gallons	x	.13367	=	Cubic feet
U. S. Gallons	x	231	=	Cubic inches
Cubic feet	x	.8036	=	U. S. Bushel
Cubic inches	x	.000465	=	U. S. Bushel
U. S. Bushel	x	.0461	=	Cubic yards
U. S. Bushel	x	1.2446	=	Cubic feet
U. S. Bushel	x	2150.42	=	Cubic inches
Cylin. ft. of water	x	6.	=	U. S. Gallon
Lbs. avoirdupois	x	.009	=	Cwt. (112)
Lbs. avoirdupois	x	.01	=	Cwt. (100)
Lbs. avoirdupois	x	.00045	=	Tons (2240)
Lbs. avoirdupois	x	.0005	=	Tons (2000)
Cubic ft. of water	x	62.5	=	lbs. avoirdupois
Cubic inch water	x	.03617	=	lbs. avoirdupois
Cylin. ft. of water	x	49.1	=	lbs. avoirdupois
Cylin. inch of water	x	.02842	=	lbs. avoirdupois
13.43 U. S. Gallons of water			=	1 cwt (112)
268.6 U. S. Gallons of water			=	1 ton (2240)

MENSURATION FACTORS

Diameter of a circle x 3.1416 = circumference.

Radius of a circle x 6.2832 = circumference.

Square of the radius of a circle x 3.1416 = area.

Square of the diameter of a circle x 0.7854 = area.

Square of the circumference of a circle x 0.07958 = area.

Half the circumference of a circle x half its diameter = area.

Doubling the diameter of a circle increases its area four times.

Circumference of a circle x 0.15915 = radius.

Square root of the area of a circle x 0.56419 = radius.

Circumference of a circle x 0.31831 = diameter.

Square root of the area of a circle x 1.12838 = diameter.

Diameter of a circle x 0.8660 = side of an inscribed equilateral triangle.

Diameter of a circle x 0.7071 = side of an inscribed square.

Circumference of a circle x 0.2251 = side of an inscribed square.

Circumference of a circle x 0.2821 = side of an equal square.

Diameter of a circle x 0.8862 = side of an equal square.

Side of a square x 1.1142 = diameter of circumscribed circle.

Side of a square x 4.443 = circumference of circumscribed circle.

Base of a triangle x one-half the altitude = area.

Multiplying both diameters and 0.7854 together = area of an ellipse.

Surface of a sphere x one-sixth of its diameter = cubical contents.

Circumference of a sphere x its diameter = surface area.

Square of the diameter of a sphere x 3.1416 = surface area.

Square of the circumference of a sphere x 0.3183 = surface area.

Cube of the diameter of a sphere x 0.5236 = cubical contents.

Cube of the circumference of a sphere x 0.016887 = cubical contents.

Radius of a sphere x 1.1547 = side of inscribed cube.

Square root of one-third of the square of the diameter of a sphere = side of
  inscribed cube.

Area of its base x one-third of its altitude = cubical contents of a cone of
  pyramid, whether round, square, or triangular.

Altitude of trapezoid x one-half the sum of its parallel sides = area.

Area of a rectangle = length x breadth.

Side of a square x 1.128 = diameter of an equal circle.

Side of a square x 3.574 = circumference of an equal circle.

Square inches x 1.273 = circle inches of an equal circle.

PROPERTIES OF ELEMENTS AND METAL COMPOSITIONS

Elements	Sym-bol	Density (Specific Gravity)	Weight per Cubic Foot	Specific Heat	MELTING POINT	
					Degrees Centigrade	Degrees Fahrenheit
Aluminum.........	Al	2.7	166.7	0.212	658.7	1217.7
Antimony.........	Sb	6.69	418.3	0.049	630	1166
"Armco" Ingot Iron	—	7.9	490.	0.115	1535	2795
Carbon............	C	3.51	219.1	0.113	3600	6512
Chromium	Cr	6.92	431.9	0.104	1520	2768
Columbium........	Cb	7.25	452.54		2200	3992
Copper............	Cu	8.89	555.6	0.092	1083	1981.4
Gold..............	Au	19.33	1205.	0.032	1063	1946
Hydrogen.........	H	0.070*	.00533		−259	−434.2
Iridium...........	Ir	22.42	1400.	0.032	2300	4172
Iron..............	Fe	7.865	490.9	0.115	1530	2786
Lead..............	Pb	11.37	708.5	0.030	327	621
Manganese........	Mn	7.4	463.2	0.111	1260	2300
Mercury..........	Hg	13.55	848.84	0.033	− 38.7	− 37.6
Nickel............	Ni	8.8	555.6	0.109	1452	2645
Nitrogen..........	N	0.83*	.063		−210	−346
Oxygen...........	O	1.14*	.0866		−280	−472
Phosphorus........	P	2.34	146.1	0.19	44	111.2
Platinum..........	Pt	21.45	1336.	0.032	1755	3191
Potassium.........	K	0.87*	54.3	0.170	62.3	144.1
Silicon............	Si	2.1	131.1	0.175	1420	2588
Silver.............	Ag	10.6	655.5	0.055	960.5	1761
Sodium	Na	0.971	60.6	0.253	97.5	207.5
Sulphur...........	S	2.05	128.	0.173	112.8	235
Tin...............	Sn	7.30	455.7	0.054	231.9	449.5
Titanium..........	Ti	3.5	218.5	0.110	1795	3263
Tungsten..........	W	18.85	1186.	0.034	3000	5432
Uranium..........	U	18.7	1167.	0.028		
Vanadium.........	V	5.5	343.3	0.115	1720	3128
Zinc..............	Zn	7.19	443.2	0.093	419	786.2
Bronze............ (90 Cu 10Sm)		8.78	548.		850–1000	1562–1832
Brass (90 Cu 10Zn)..		8.60	540.		1020–1030	1868–1886
Brass (70 Cu 30 Zn) ...		8.44	527.		900–940	1652–1724
Cast Pig Iron......		7.1	443.2		1100–1250	2012–2282
Open Hearth Steel .		7.8	486.9		1350–1530	2462–2786
Wrought Iron Bars.		7.8	486.9		1530	2786

*NOTE—Density compared with air.

USEFUL INFORMATION

Doubling the diameter of a pipe increases its capacity four times.

A gallon of water (U. S. Standard) weighs 8⅓ lbs. and contains 231 cubic inches.

A cubic foot of water contains 7½ gallons, 1.728 cubic inches, and weighs 62½ lbs.

To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434.

Steam rising from water at its boiling point (212 degrees) has a pressure equal to the atmosphere (14.7 lbs. to the square inch).

A standard horse-power: The evaporation of 30 lbs. of water per hour from a feed water temperature of 100 degrees F. into steam of 70 lbs. gauge pressure.
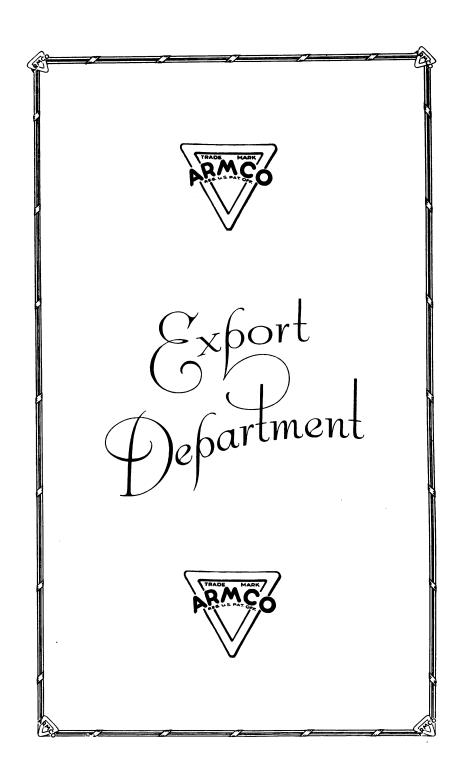
To find capacity of a tank of any size: Given dimensions of a cylinder in inches, to find its capacity in U. S. gallons: Square the diameter, multiply by the length and by .0034.

To ascertain heating surface in tubular boilers multiply two-thirds the circumference of boiler by length of boiler in inches and add to it the area of all the tubes.

One-sixth of tensile strength of plate multiplied by thickness of plate and divided by one-half the diameter of boiler gives safe working pressure for tubular boilers. For marine boilers add 20 per cent for drilled holes.

To find the capacity of an air compressor in cubic feet of free air per minute: Multiply the area of low pressure cylinder (on compound compressor), or area of simple compressor cylinder in square inches, by the stroke in inches, and divide by 1728; and multiply this result:

(a) In single acting, simple or compound, by the r. p. m.

(b) Double acting, simple or compound, by 2 x r. p. m.

(c) Duplex double acting, by 4 x r. p. m.

Export Department

EXPORT

Prior to 1910 manufacturers of the United States looked upon export business as an expensive luxury.   At that time this country was third in the world's race for oversea's trade, this position being due to the immeasurable natural resources of the country and Yankee ingenuity, rather than to consistent efforts to obtain orders for export.

By 1911, "Armco" Ingot Iron had become so firmly established as a quality product in the United States that The American Rolling Mill Company realized the necessity of cultivating the markets of the world as well as our own.

Initial efforts were, in common with a host of other American exporters, directed to Brazil.   Success here was so quickly attained and of such magnitude that immediate steps were taken to enlarge the export field, and the list of agencies and representatives shown on page 6 indicates the extent to which our export business has developed.

In choosing a representative in each foreign field it is our effort to select only such firms that are financially strong and which enjoy the good will and respect of their customers.

The following manufacturers have been licensed to produce Armco Quality Ingot Iron in the United Kingdom under our patents.

Shelton Iron, Steel & Coke Co., Limited.
Stoke-On-Trent, Staffordshire, England.
Licensed to produce "ARMCO" QUALITY INGOT IRON.
Plates, channels, joist, rounds, keel bars, angles, flats, tees, sections, conductivity rails and billets.

Whitecross Company, Ltd.
Warrington, Chester, England.
Licensed to produce "ARMCO" QUALITY INGOT IRON.
Wire Products.

Scottish Iron and Steel Co., Ltd.
Glasgow, Scotland.
Licensed to produce "ARMCO" QUALITY INGOT IRON.
Sheet Bars, Tube Strips and Billets.

Scottish Tube Co., Ltd.
Glasgow, Scotland.
Licensed to produce "ARMCO" QUALITY INGOT IRON,
Lap Welded and Butt Welded Pipe and Tubes.

"ARMCO" COUNT BASED ON BIRMINGHAM GAUGE
LEGALIZED BY BRITISH ORDER IN
COUNCIL, JULY 16th, 1914

3 inch Corrugated Sheets corrugated to depth of ¾ inch.

10/3″ Corrugated Sheets 32″ wide after corrugating from 36″ wide flat sheets.

8/3″ Corrugated Sheets 26″ wide after corrugating from 30″ wide sheets.

Average number Galvanized 8/3″ Corrugated Sheets per gross ton (2240 lbs.)

Gauge	6′	7′	8′	9′	10′
28	192	164	144	128	115
27	177	151	132	118	106
26	160	137	120	106	96
25	144	124	108	96	86
24	130	111	98	87	78
23	118	101	88	79	71
22	106	91	80	71	64
21	97	83	72	64	58
20	87	75	65	58	52

Average number Galvanized 10/3″ Corrugated Sheets per gross ton (2240 lbs.)

28	160	137	120	107	96
27	147	126	110	98	88
26	133	114	100	89	80
25	120	103	90	80	72
24	109	93	81	72	65
23	98	84	74	66	59
22	89	76	66	59	53
21	81	69	60	54	48
20	73	62	54	48	43

Average Galvanized Flat Sheets per gross ton (2240 lbs.)

Gauge	24″ x72″	30″ x 72″	36″ x 72″
28	241	192	160
27	221	177	147
26	200	160	133
25	180	144	120
24	163	130	109
23	148	118	98
22	133	106	89
21	121	97	81
20	109	87	73
19	98	78	65
18	87	70	58
17	78	63	52
16	70	56	47
15	63	51	42
14	57	45	38
13	51	41	34
12	45	36	30
11	40	32	27

Average Black Sheets per gross ton (2240 lbs.)

26	239	191	159
25	212	169	141
24	188	151	126
23	168	134	112
22	149	120	99
21	134	107	89
20	120	96	80
19	106	85	71
18	94	75	63
17	84	67	56
16	75	60	50
15	67	53	44
14	60	48	40
13	53	42	35
12	47	38	31
11	42	33	28
10	37–	30	25

TABLE OF WEIGHTS BASED ON BIRMINGHAM GAUGE

Size 1 Meter x 2 Meters equivalent to 39.37″ x 78.74″—21.526 sq. ft.

	GALVANIZED		BLACK	
	Wgt. per sq. ft.	Wgt. per sheet	Wgt. per sq. ft.	Wgt. per sheet
10 B. G............	82.50 oz.	110.99 lbs.	80.00 oz.	107.64 lbs.
11 B. G............	73.70 oz.	99.15 lbs.	71.20 oz.	95.80 lbs.
12 B. G............	65.86 oz.	88.16 lbs.	63.36 oz.	85.25 lbs.
14 B. G............	52.74 oz.	70.95 lbs.	50.24 oz.	67.59 lbs.
16 B. G............	42.50 oz.	57.18 lbs.	40.00 oz.	53.82 lbs.
18 B. G............	34.18 oz.	45.98 lbs.	31.68 oz.	42.62 lbs.
19 B. G............	30.66 oz.	41.25 lbs.	28.16 oz.	37.89 lbs.
20 B. G............	27.46 oz.	36.94 lbs.	24.96 oz.	33.58 lbs.
22 B. G............	22.50 oz.	30.27 lbs.	20.00 oz.	26.91 lbs.
24 B. G............	18.34 oz.	24.67 lbs.	15.84 oz.	21.31 lbs.
26 B. G............	14.98 oz.	20.15 lbs.	12.48 oz.	16.79 lbs.
27 B. G............	13.54 oz.	18.21 lbs.	11.04 oz.	14.85 lbs.
28 B. G............	12.42 oz.	16.70 lbs.	9.92 oz.	13.35 lbs.

$\frac{3}{16}$″ Gauge...161.45 lbs.

A Metric Ton is equivalent to 2205 lbs.

ARMCO COUNT—BIRMINGHAM GAUGE

GALVANIZED		BLACK	
	Weight of Sheets		Weight of Sheets
Gauge	Lbs. per Sq. Ft.	Gauge	Lbs. per Sq. Ft.
28	.776	26	.78
27	.846	25	.88
26	.936	24	.99
25	1.036	23	1.11
24	1.146	22	1.25
23	1.266	21	1.39
22	1.406	20	1.56
21	1.546	19	1.76
20	1.716	18	1.98
19	1.916	17	2.22
18	2.136	16	2.50
17	2.376	15	2.79
16	2.656	14	3.14
15	2.946	13	3.52
14	3.296	12	3.96
13	3.676	11	4.45
12	4.116	10	5.00
11	4.606		

DECIMALS OF AN INCH AND MILLIMETERS

For each $\frac{1}{64}$ Inch

Millimeters x .03937 = Inches   Inches x 25.4 = Millimeters

$\frac{1}{32}''$	$\frac{1}{64}''$	Decimal Inch.	Decimal Mm.	Fractional Inch.	$\frac{1}{32}''$	$\frac{1}{64}''$	Decimal Inch.	Decimal Mm.	Fractional Inch.
	1	.015625	.3968	......	.....	33	.515625	13.0966	......
1	2	.03125	.7937	......	17	34	.53125	13.4934	......
.....	3	.046875	1.1906	......	.....	35	.546875	13.8903	......
2	4	.0625	1.5874	$\frac{1}{16}$	18	36	.5625	14.2872	$\frac{9}{16}$
.....	5	.078125	1.9843	......	.....	37	.578125	14.6841	......
3	6	.09375	2.3812	......	19	38	.59375	15.0809	......
.....	7	.109375	2.7780	......	.....	39	.609375	15.4778	......
4	8	.125	3.1749	$\frac{1}{8}$	20	40	.625	15.8747	5
.....	9	.140625	3.5718	......	.....	41	.640625	16.2715	......
5	10	.15625	3.9686	......	21	42	.65625	16.6884	......
.....	11	.171875	4.3655	......	.....	43	.671875	17.0653	......
6	12	.1875	4.7624	$\frac{3}{16}$	22	44	.6875	17.4621	$\frac{11}{16}$
.....	13	.203125	5.1592	......	.....	45	.703125	17.8590	......
7	14	.21875	5.5561	......	23	46	.71875	18.2559	......
.....	15	.234375	5.9530	......	.....	47	.734375	18.6527	......
8	16	.25	6.3498	$\frac{1}{4}$	24	48	.75	19.0496	$\frac{3}{4}$
.....	17	.267625	6.7467	......	.....	49	.765625	19.4465	......
9	18	.28125	7.1436	......	25	50	.78125	19.8433	......
.....	19	.296875	7.5404	......	.....	51	.796875	20.2402	......
10	20	.3125	7.9373	$\frac{5}{16}$	26	52	.8125	20.6371	$\frac{13}{16}$
.....	21	.326125	8.3342	......	.....	53	.828125	21.0339	......
11	22	.34375	8.7310	......	27	54	.84375	21.4308	......
.....	23	.359375	9.1279	......	.....	55	.859375	21.8277	......
12	24	.375	9.5248	3	28	56	.875	22.2245	$\frac{7}{8}$
.....	25	.390625	9.9216	......	.....	57	.890625	22.6214	......
13	26	.40625	10.3185	......	29	58	.90625	23.0183	......
.....	27	.421875	10.7154	......	.....	59	.921875	23.4151	......
14	28	.4375	11.1122	$\frac{7}{16}$	30	60	.9375	23.8120	$\frac{15}{16}$
.....	29	.453125	11.5091	......	.....	61	.953125	24.2089	......
15	30	.46875	11.9060	......	31	62	.96875	24.6057	......
.....	31	.484375	12.8029	......	.....	63	.984375	25.0026	......
16	32	.5	12.6997	$\frac{1}{2}$	32	64	1.0000	25.3895	1

DECIMAL EQUIVALENTS

of Millimeters and Fractions of Millimeters

Millimeters x .03937 = Inches   Inches x 25.4 = Millimeters
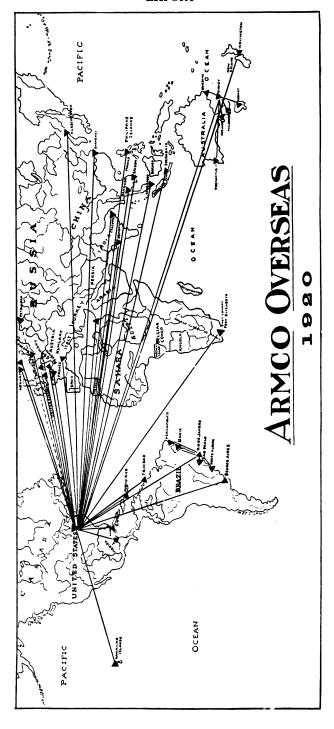
m/m	Inch	m/m	Inch	m/m	Inches
0.01	.00039	0.43	.01693	0.85	.03346
0.02	.00079	0.44	.01732	0.86	.03386
0.03	.00118	0.45	.01772	0.87	.03425
0.04	.00157	0.46	.01811	0.88	.03465
0.05	.00197	0.47	.01850	0.89	.03504
0.06	.00236	0.48	.01890	0.90	.03543
0.07	.00276	0.49	.01929	0.91	.03583
0.08	.00315	0.50	.01969	0.92	.03622
0.09	.00354	0.51	.02008	0.93	.03661
0.10	.00394	0.52	.02047	0.94	.03701
0.11	.00433	0.53	.02087	0.95	.03740
0.12	.00472	0.54	.02126	0.96	.03780
0.13	.00512	0.55	.02165	0.97	.03819
0.14	.00551	0.56	.02205	0.98	.03858
0.15	.00591	0.57	.02244	0.99	.03898
0.16	.00630	0.58	.02283	1	.03937
0.17	.00669	0.59	.02323	2	.07874
0.18	.00709	0.60	.02362	3	.11811
0.19	.00748	0.61	.02402	4	.15748
0.20	.00787	0.62	.02441	5	.19685
0.21	.00827	0.63	.02480	6	.23622
0.22	.00866	0.64	.02520	7	.27559
0.23	.00906	0.65	.02559	8	.31496
0.24	.00945	0.66	.02598	9	.35433
0.25	.00984	0.67	.02638	10	.39370
0.26	.01024	0.68	.02677	11	.43307
0.27	.01063	0.69	.02717	12	.47244
0.28	.01102	0.70	.02756	13	.51181
0.29	.01142	0.71	.02795	14	.55118
0.30	.01181	0.72	.02835	15	.59055
0.31	.01220	0.73	.02874	16	.62992
0.32	.01260	0.74	.02913	17	.66929
0.33	.01299	0.75	.02953	18	.70866
0.34	.01339	0.76	.02992	19	.74803
0.35	.01378	0.77	.03032	20	.78740
0.36	.01417	0.78	.03071	21	.82677
0.37	.01457	0.79	.03110	22	.86614
0.38	.01496	0.80	.03150	23	.90551
0.39	.01535	0.81	.03189	24	.94488
0.40	.01575	0.82	.03228	25	.98425
0.41	.01614	0.83	.03268	26	1.02362
0.42	.01654	0.84	.03307		

METRIC CONVERSION FACTORS

Millimeters x .03937 = inches.
Millimeters ÷ 25.4 = inches.
Centimeters x .3937 = inches.
Centimeters ÷ 2.54 = inches.
Meters x 39.37 = inches.
Meters x 3.281 = feet.
Meters x 1.094 = yards.
Kilometers x .6214 = miles.
Kilometers x 3280.8 = feet.
Kilometers ÷ 1.6093 = miles.
Sq. Millimeters x .001550 = sq. inches.
Sq. Millimeters ÷ 645.2 = square inches.
Sq. Centimeters x .155 = square inches.
Sq. Centimeters ÷ 6.452 = square inches.
Square Meters x 10.764 = square feet.
Square Kilometers x 247.1 = acres.
Hectare x 2.471 = acres.
Cubic Centimeters ÷ 16.387 = cubic inches.
Cubic Centimeters ÷ 3.697 = fluid drahms. (U. S. P.)
Cubic Centimeters ÷ 29.57 = fluid ounces. (U. S. P.)
Cubic Meters x 35.315 = cubic feet.
Cubic Meters x 1.308 = cubic yard.
Cubic Meters x 264.2 = U. S. gallons (231 cubic inches).
Liters x 61.022 = cubic inches (Act of Congress).
Liters x 33.81 = fluid ounces (U. S. P.).
Liters x .2642 = U. S. gallons (231 cubic inches).
Liters ÷ 3.785 = U. S. gallons (231 cubic inches).
Liters ÷ 28.316 = cubic feet.
Hectoliters x 3.531 = cubic feet.
Hectoliters x 2.838 = bushel (2150.42 cubic inches).
Hectoliters x .1308 = cubic yard.
Hectoliters x 26.42 = U. S. gallons (231 cubic inches).
Grams x 15.432 = grains.
Grams x 980.7 = dynes.
Grams (water) ÷ 29.57 = fluid ounces.
Grams ÷ 28.35 = ounces avoirdupois.
Grams per cubic centimeter ÷ 27.68 = lbs. per cubic inch.
Joule x .7375 = foot pounds.
Kilograms x 2.2046 = pounds.
Kilograms x 35.274 = ounces (avoirdupois).
Kilograms ÷ 907.19 = tons (2,000 pounds).
Metric Ton (1,000 kilos) x 1.102 = tons (2,000 pounds).
Kilograms per square centimeter x 14.223 = pounds per square inch.
Kilogram-meters x 7.233 = foot pounds.
Kilos per meter x .6720 = pounds per foot.
Kilos per cubic meter x .06243 = pounds per cubic foot.
Kilowatts x 1.340 = horse-power.
Watts x .7375 = foot pounds per second.
Calorie x 3.068 = B. T. U.
Calorie (large) x 3.971 = B. T. U.
Cheval vapeur x .9863 = horse-power.
Gravity = 980.665 centimeters per second.
Gravity = 981.2 at London, at 45 degrees latitude and sea level.

INTERNATIONAL EXCHANGE—Conversion Table

New York on	Form of Quotation	Par Value of Unit
London—Demand sterling.. / Cable transfers...	dollars for £1	4.8666
Paris—Checks.. / Cables..	francs for $1	5.18-¼
Swiss—Checks.. / Cables..	francs for $1	5.18-¼
Amsterdam—Sight.. / Cables..	cents for 1 guilder	40.195
Italy—Sight.. / Cables..	lire for $1	5.18-¼
Greece—Checks.. / Cables..	drachma for $1	5.18-¼
Copenhagen—Sight.. / Cables..	cents for 1 krone	26.80
Sweden—Checks.. / Cables..	cents for 1 krone	26.80
Norway—Checks.. / Cables..	cents for 1 krone	26.80
Petrograd—Sight.. / Cables..	cents for 1 ruble	51.46
Spain—Checks.. / Cables..	cents for 1 peseta	19.30
Berlin..	cents for 1 mark	23.82
Vienna..	cents for 1 crown	20.26
Santiago *..	cents for 1 paper peso	.22
Lima..	dollar for 1 libra	4.86
Buenos Aires—Gold.. / Paper..	cents for 1 gold peso / cents for 1 paper peso	96.5 / 42.45
Rio de Janeiro..	cents for 1 milreis	32.4
Yokohama—Checks.. / Cables..	cents for 1 yen	49.840
Hong Kong—Checks.. / Cables..	cents for 1 dollar	42.898
Shanghai—Checks.. / Cables..	dollars for 1 tael	

* Altho by law the conversion value of the Chilean peso is 36-½c. for nearly ten years past pesos have averaged about 22c.

London on	Form of Quotation	Par Value of Unit
Paris—Checks..	francs to £1	25.22-½
Berlin—Sight..	marks to £1	20.40
Vienna—Sight..	kronen to £1	24.02
Amsterdam—Checks..	florin to £1	12.107
Christiania—Sight..	kroner to £1	18.159
Stockholm—Sight..	kroner to £1	18.159
Copenhagen—Sight..	kroner to £1	18.159
Finland—Sight..	f. marks to £1	25.207
Petrograd—Sight..	rubles to £10	94.57
Italy—Sight..	lire to £1	25.22-½
Greece—Sight..	drachmae to £1	25.207
Switzerland—Sight..	francs to £1	25.22-½
Madrid—Sight..	pesetas to £1	25.22-½
Lisbon—Sight..	pence to mils	53¼d
Alexandria—Sight..	piastres to £1	97-½
New York—Cable..	dollars to £1	4.86-⅔
Montreal—Cable..	dollars to £1	4.86-⅔
Buenos Aires—T. T..	pence to pesos	47.58
Rio de Janeiro—90 days..	pence to mils	16
Montevideo—T. T..	pence to pesos	51
Valparaiso—90 days..	pence to pesos	18
Lima—90 days..	Eng. to Per. £1	par
Calcutta—T. T..	ster. to rupee	1s 4d
Bombay—T. T..	ster. to rupee	2s
Madras—T. T..	ster. to rupee	1s 4d
Hong Kong—T. T..	ster. to dollar	
Shanghai—T. T..	ster. to tael	
Singapore—T. T..	ster. to dollar	
Yokohama—T. T..	ster. to yen	24-29/50d

ARMCO OVERSEAS
1920

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